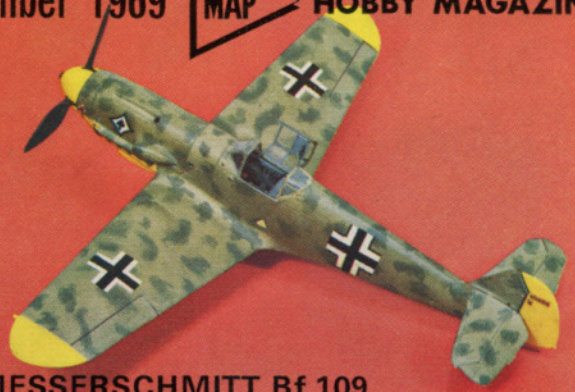
NEW! ISSUE No 3

Scale Models

Three Shillings U.S.A. & Canada 70c. December 1969 MAP HOBBY MAGAZINE

PANTHER TANK



MESSERSCHMITT Bf 109

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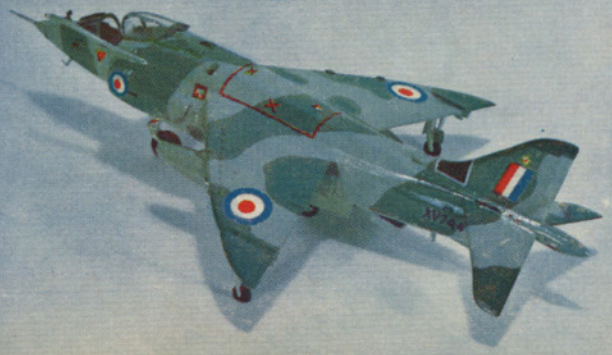
VW KUBELWAGEN

HAWKER HARRIER



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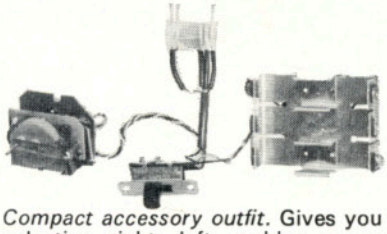

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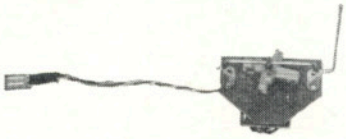

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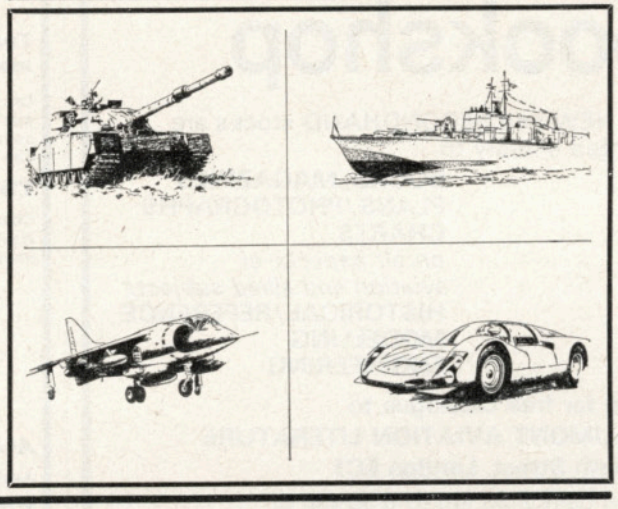

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on the cover

Subjects of reviews and features in this issue, the editor's photographs of Tamiya's Panther V tank, realistically modified by Bob Jones; Revell's Messerschmitt Bf 109F made by Cesare Milani; Revell's Triumph show bike assembled by Sue White; the finely detailed Politoy Scarabeo, and on bottom row, Bob Jones' Sankyo Kubelwagen and Pat Lloyd's modification of the Airfix Hawker Harrier.

next month

Centenary of 'Cutty Sark' celebrated with drawings, photo-detail and model reviews; DH Mosquito plans and preservations; Recommended reading, many more reference books reviewed; Tamiya's 1/25th Tiger and Monogram's Bell P-39 among many other 'New to You' items; Bentley 4.5 Litre drawings; Racing Car cockpit photospread; latest on the flying field and from the workbench, on sale December 12th.

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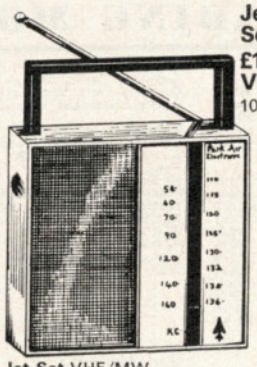

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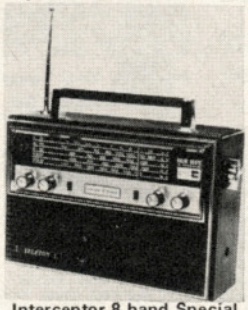

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107
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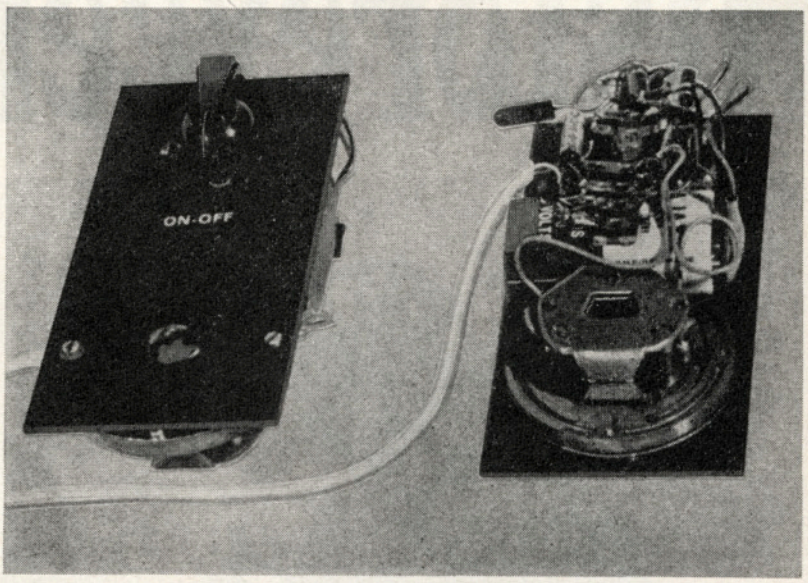

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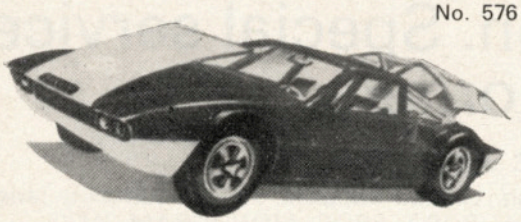

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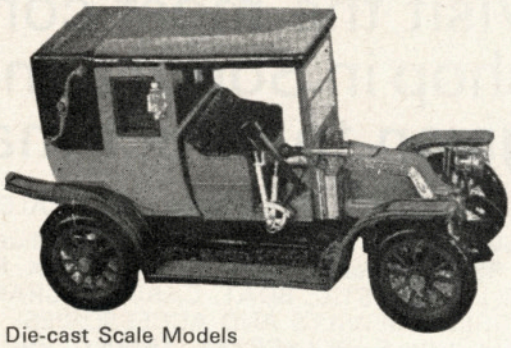

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There will be a magnificent collection of models of all sorts, shapes and sizes, covering locomotives, traction engines, steam rollers, ships, yachts, cars, aircraft In fact, anything which can be modelled. These entries will be competing for a wide selection of trophies, cups and other awards as individual entries In addition, this year the emphasis will be very much on the club aspect, and not only the governing bodies but some of the larger individual clubs have come together to give a composite exhibit of their efforts.

In the gallery, the popular 'Boys' Exhibition' organised by Commander Guffick will be there again – bigger and better There will be a Meccano competition and a fine display.

WORKING MODELS

The ever-popular live steam exhibit will be operated by the Society of Model and Experimental Enginers and youngsters of all ages, five to seventy, will be able to have a ride behind the steam engine

The S.M.E.E.'s own stand will also, of course, have its usual selection of models operating under compressed air

COME AND HAVE A RUN

. . . Yes, you can now, with your locomotive If it is a LBSC prototype, then enter the LBSC MEMORIAL BOWL CONTEST, which requires a track run. A second track will be in operation this year with 2½ (yes, 2½ in. gauge!), 3½ and 5 in. facilities. We are open to accept visits from clubs bringing their locomotives to 'put on a show' during the exhibition. Limited time available, so make up a party and get a firm date.

HISTORIC MODEL AIRCRAFT COLLECTION

Lt. Commander Greenhalgh's collection of famous model aircraft and power units from the birth of flying to the present day will be on display.

POND FOR LITTLE SHIPS

(about 2 ft. l.o.a. is the limit) where radio-controlled boats will be demonstrated. Why not arrange to bring yours ?

MECCANO DISPLAY

In addition to a Meccano model class there will be a fascinating array of working Meccano models, including the famous Ferris Wheel (from Vienna's Praten – Remember 'The Third Man'?

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Tools to make things, lathe accessories, complete lathes, small tools and the like, making a strong and popular class. Smaller items will be displayed safely under glass.

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Horological work is one of the most rewarding of home workshop efforts. In recent years we have had excellent support from enthusiasts.

RADIO CONTROLLED CARS in action.

An operating area round the park will be used by electric r/c cars. If you have one, bring it along!

STAMP COLLECTORS

Specially franked covers and other items of philatelic interest will be available. A commemorative cover will be available and may be posted from the exhibition with a special frank.

MODEL TRADE SUPPORT

Once again we welcome members of the model trade who will be displaying their wares and in most cases selling their products. We have Beatties of London, Kennions, Myfords, Traction Engine Enterprises, Historex, Flying Dutchman, Mainstream Productions, Howard Taylor, Arms & Armour Press, Sartglen Eng., Arlington Supplies, Cromar White, Turntable and G.R.P. Marine. In fact there should be somebody to please the enthusiast in every angle of model making. Our own M.A.P. books will be on sale and a number of representative model govcerning bodies will be exhibiting, including The Society of Model and Experimental Engineers, International Plastic Model Society, Model Power Boat Association, all of which are National Non-territorial bodies. In addition there will be a number of club features to show what can be done.

SOUVENIR GUIDE

A very special Christmas Extra issue of Model Engineer will be coming out on December 12th. This will be the Exhibition Souvenir Handbook and Guide. It will contain Exhibition entries, details of Stands, plus articles by leading model contributors. On sale everywhere and at the Show. If you cannot come, get a copy and it should persuade you. If you expect to come, read all about it first.

PARTIES

Many clubs will be organising parties to come. We shall be very happy to welcome them, give them reduced price bookings, also book up party lunches, teas or other meals well in advance. **Single and small number pre-booking tickets are available from these offices at Adults 3s. and Child 2s. Parties of more than ten: Adults 2s. 6d., Child 1s. 6d. Admission at the Pay-box** is: Adults 4s., Child 2s. 6d. Any youngster at school is a child. Under five, admission free accompanied by an adult.

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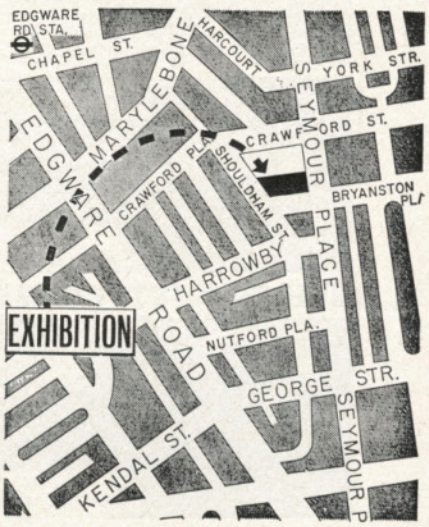

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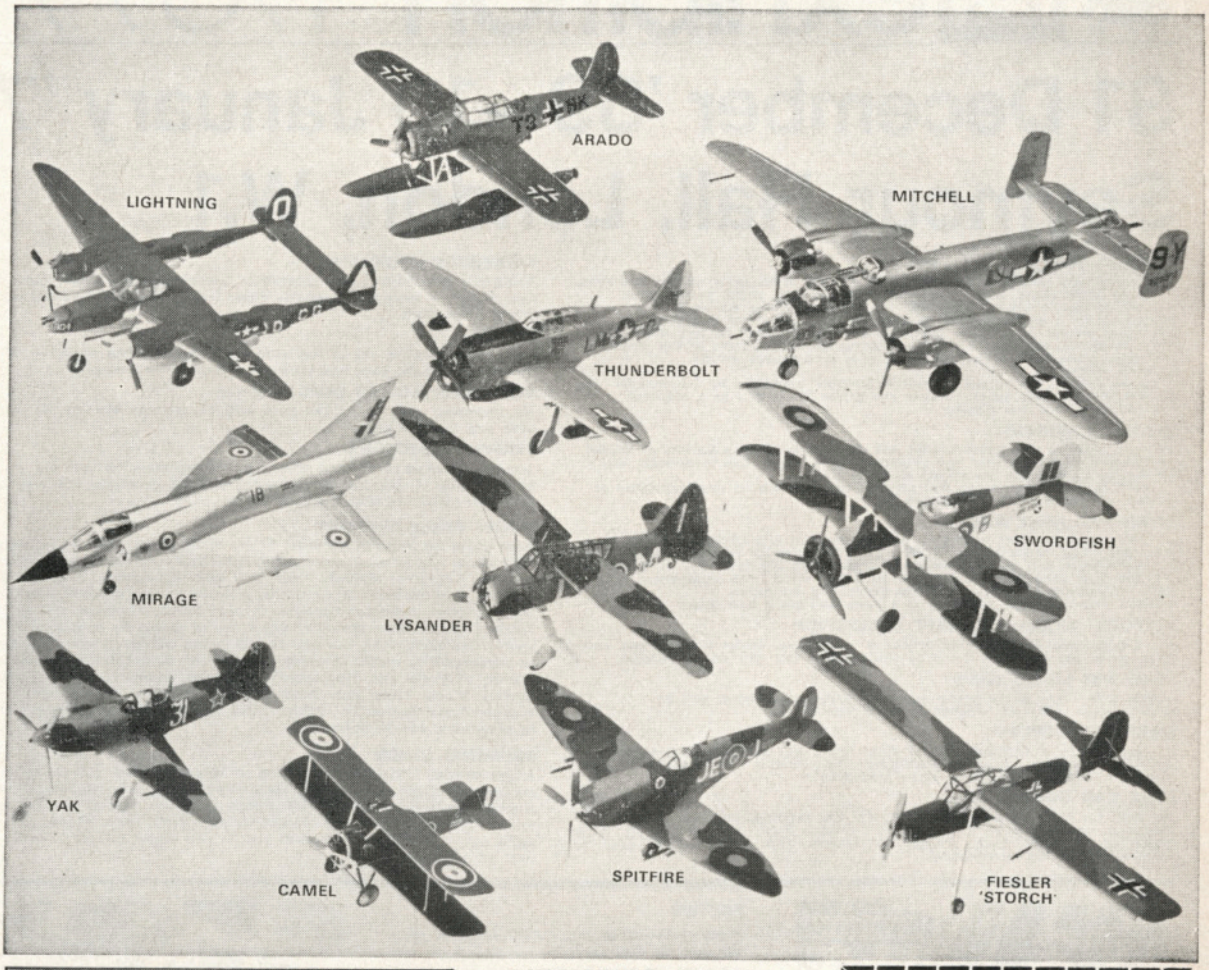

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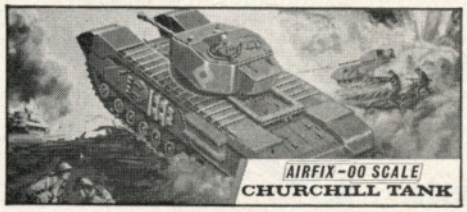

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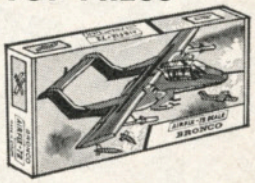

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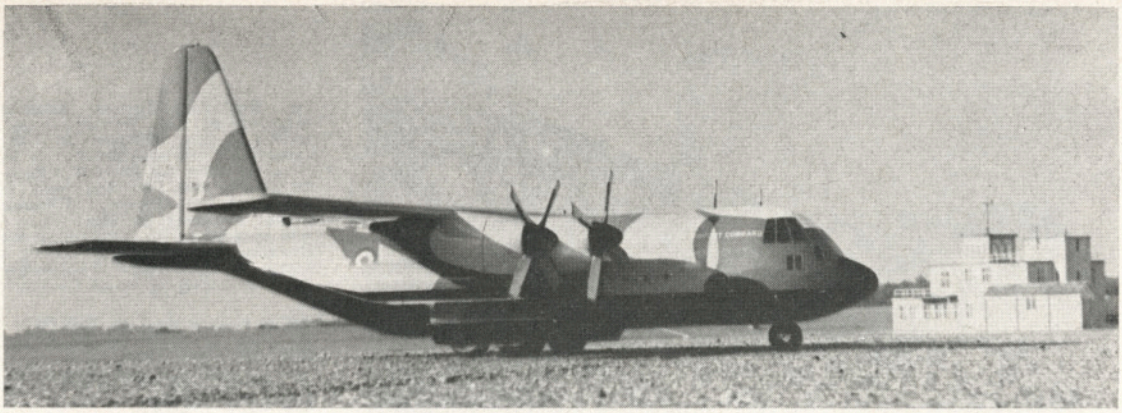


SCALE WORLD

TWO editions have produced a reaction that has told us much more than could ever have been extracted from our earlier questionnaire. Thank YOU readers EVERYWHERE! Constructive criticism, suggestions for new subjects, factual data, photographs, compliments and brickbats have become part of our daily postbag. It is this response which gives us clearest guidance for the future. We must frankly admit that there are some aspects of scale modelling that we did not appreciate and which now challenge our editorial capacity. For example, there seems to be an entirely different degree of acceptable standards in scale drawings between those of aircraft and those for cars or boats. This is also reflected to some degree in the kits as well.

There are occasions when the postbag has its lighter moments. To open one letter containing praise for getting the Spitfire wing shape right – at last, and to find the next one slating us for getting it all wrong is all part of the game. When we tell you that George Cox and M. J. Lee had all the resources of manufacturers salvaged assembly drawings *and* then went with special permission to the Imperial War Museum and, armed with a huge trammel, laboriously measured the Spitfire in every possible manner, the reader may understand why we back their plan in October issue right to the last rivet.

We also have the most pleasant surprises. Just yesterday a photo arrived of that rare all-black Israeli Spitfire which is still flown by Brig. Weitzmann, and which we shall reproduce next month for the collectors, *and* the same post brought us transparencies of Turkey's preserved P-47, Curtis Falcon and, believe it or not – Polish PZL gull wing fighter!

The phone has its moments too. One character told us he couldn't see the point of grafting a Lancaster tail on a Lysander as we had done. He hadn't realised that photo opposite the one of Doug McHard's modded model was of the real thing! We've had an interior decorator quite offended when we told him – *no* we do *not* have any old models to spare for his drinking bar decorations. More gratifying was our ability to help when BKS Air Transport asked if we could help locate a model of the Instone Airlines D.H.4 for the occasion of the 50th Anniversary of the first flights from Hounslow Heath. Our old friend and aviation artist, Ken McDonough has a magnificent model, and was persuaded to go along to the 'Hussar' for what turned out to be quite a remarkable reunion.

The photograph from the *Middlesex Chronicle* (below) shows Mr. G. Hummerstone, F. Instone, S. Oldfield and L. Page enjoying the comparison of Ken's G-EAMU with a BKS Trident. Each of these gentlemen has particular reason to remember the real aircraft, but perhaps none more so than S. Oldfield, the original Instone Airlines engineer, and the person responsible for its conversion to enter the Kings Cup Air Race, which it won in 1922. Twist to the story is that this remarkable gathering was quite astonished to learn that Ken's detailed replica was a *flying* model!

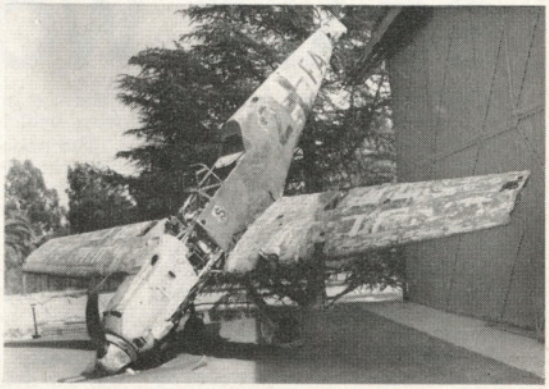
One might also express the same degree of surprise on learning that the heading photo on this page is also a flying model – and radio controlled at that! We have been watching Geoff Franklin's progress with the C-130 Hercules over the past year, and he kindly brought it along to the offices to let us have a look as it approaches finality. Posed by Bovingdon's famous control tower, which has featured in so many air films, the 'Herky-bird' looks fine in Air Support Command colours. Best of luck, Geoff, when you have those four K & B .19 engines turning and burning for the first flight!

Left: Deutsches Museum (Munich) immaculate Bf 109E. Below, on its nose is R.S.A. War Museum Bf 109E, the remains of one shot down over Devon. Number 12 is the famous 'Biggin Hill' Bf 109E-4, with late type hood, and at bottom, Lucerne Museum of Transport's oldest surviving Bf 109E, olive green and light blue with white serial number. Drawing opposite is to 1/72nd scale, measured from Biggin Hill example and prepared by Doug Carrick.

Will the genuine Bf109s please stand up! A review of survivors by LES HUNT

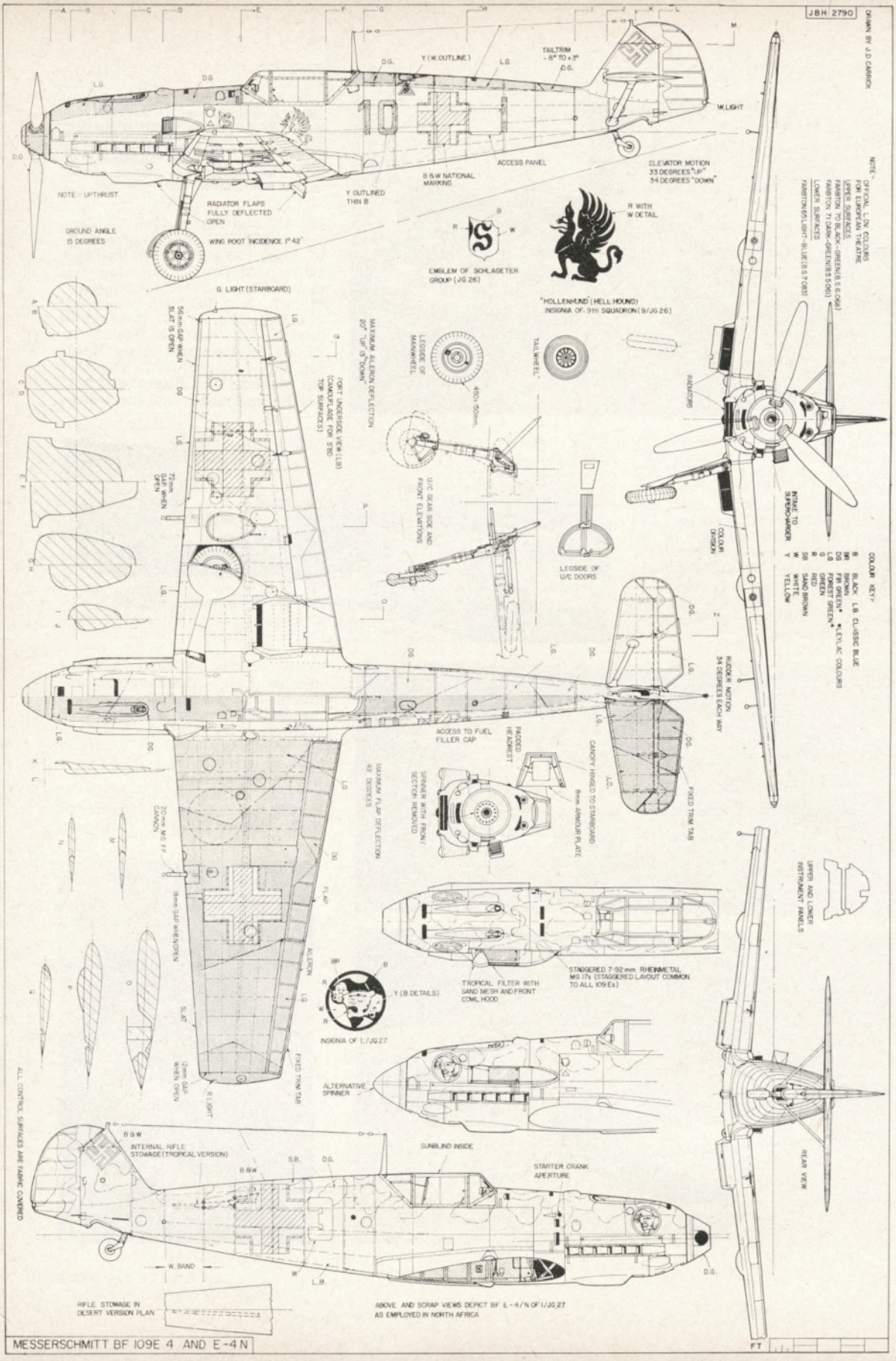
THE VINTAGE SCENE

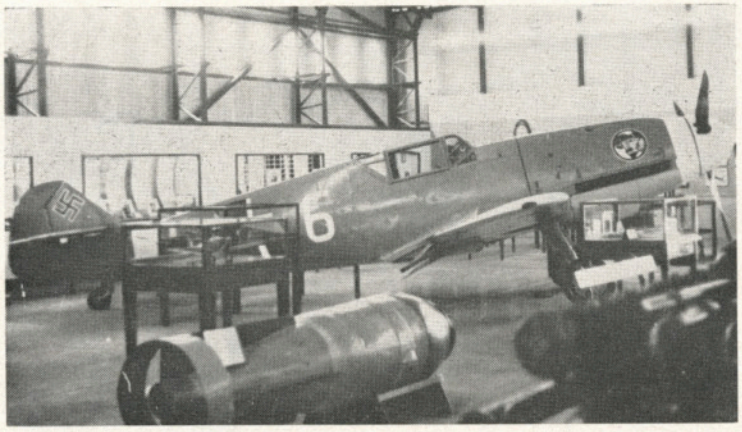
Messerschmitt Bf 109



ONE OF THE circumstances which enabled the Battle of Britain picture to be completed without use of wartime news reels and captured film was the existence, in Spain, of the Merlin-engined Messerchmitt 109s, the 1953-built HA-1112-MIL, most of which, after the filming, departed for the USA. Perhaps only one of these is really worthy of mention, the two-seater HA-1112-M4L, which was C4K112, then G-AWHC, coded '11' in the filming period (now in Harlingen, Texas).

Let us concentrate, though, on the *authentic* Bf 109s remaining and of which, alas, perhaps only one may ever fly, if Ministry of Defence allow the Wattisham-based 109G-2 (werke number 10639) to take the air. This captured machine, given the serial RN228 coded '14' was listed then as an F-6 and readers' comments would be valued. At Biggin Hill – perhaps for RAF Museum, if Wattisham's does not go there – is the Bf 109E coded '12' which has been recorded as an E-4 and quoted as MS/240/6/11, though the significance escapes the writer. The serial DG200 indicates this as being an early captured machine and it is known to have been at Duxford –

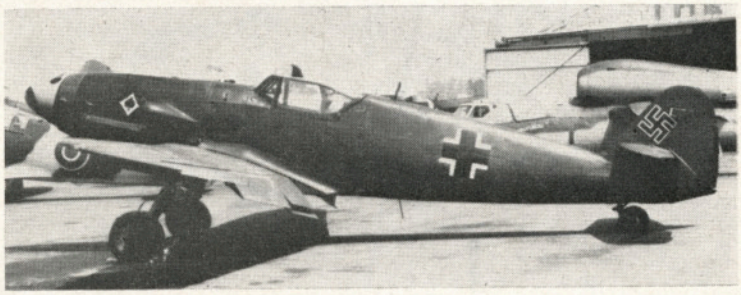

JBH 2790
DRAWN BY J.D. CARROCK
NOTE:- OFFICIAL L.DV. COLOURS FOR EUROPEAN THEATRE
UPPER SURFACES
RAF DARK GREEN (B.S.6.060)
RAF DARK GREEN (B.S.060)
FARBTON 71 (DARK GREEN B.S.060)
LOWER SURFACES
FARBTON 65 (LIGHT BLUE (B.S.17.083)
COLOUR KEY:-
B BLACK
LB CLASSIC BLUE
BR BROWN
DG DARK GREEN*
FG FOREST GREEN*
LG GREEN
G RED
R RED
SB SAND BROWN
W WHITE
Y YELLOW
*LETALAC COLOURS
COLOUR DIVISION
ROTATE TO SUPERCHARGER
RADIATORS
RUDDER MOTION 34 DEGREES EACH WAY
FIXED TRIM TAB
CANOPY HINGED TO STARBOARD
8mm ARMOUR PLATE
PADDED HEADREST
ACCESS TO FUEL FILLER CAP
SPINNER WITH FRONT SECTION REMOVED
MAXIMUM FLAP DEFLECTION 42 DEGREES
FLAP
AILERON
SLAT
FIXED TRIM TAB
R. LIGHT
20mm MG FF CANON
18mm GAP WHEN OPEN
12mm GAP WHEN OPEN
56mm GAP WHEN SLAT IS OPEN
72mm GAP WHEN OPEN
MAXIMUM AILERON DEFLECTION 20° "UP" 8° "DOWN"
PORT UNDERSIDE VIEW (LB) (CAMOUFLAGE FOR S'ND TOP SURFACES)
G. LIGHT (STARBOARD)
LEGSIDE OF MAINWHEEL
450 x 50mm.
TAILWHEEL
U/C GEAR SIDE AND FRONT ELEVATIONS
LEGSIDE OF U/C DOORS
TAILTRIM -8° TO +3°
D.G.
Y (W. OUTLINE)
L.G.
W. LIGHT
ACCESS PANEL
ELEVATOR MOTION 33 DEGREES "UP" 34 DEGREES "DOWN"
B & W NATIONAL MARKING
Y OUTLINED THIN B
R WITH W DETAIL
NOTE:- UPTHRUST
RADIATOR FLAPS FULLY DEFLECTED OPEN
GROUND ANGLE 15 DEGREES
WING ROOT INCIDENCE 1°42'
EMBLEM OF SCHLAGETER GROUP (JG 26)
"HOLLENHUND" (HELL HOUND) INSIGNIA OF 9th SQUADRON (9/JG 26)
UPPER AND LOWER INSTRUMENT PANELS
REAR VIEW
STAGGERED 7·92 mm RHEINMETAL MG 17s (STAGGERED LAYOUT COMMON TO ALL 109 Es)
TROPICAL FILTER WITH SAND MESH AND FRONT COWL HOOD
Y (B. DETAILS)
INSIGNIA OF I./JG 27
ALTERNATIVE SPINNER
SUNBLIND INSIDE
STARTER CRANK APERTURE
INTERNAL RIFLE STOWAGE (TROPICAL VERSION)
W. BAND
RIFLE STOWAGE IN DESERT VERSION PLAN
ABOVE AND SCRAP VIEWS DEPICT BF E-4/N OF I/JG 27 AS EMPLOYED IN NORTH AFRICA
ALL CONTROL SURFACES ARE FABRIC COVERED
MESSERSCHMITT BF 109E 4 AND E-4N

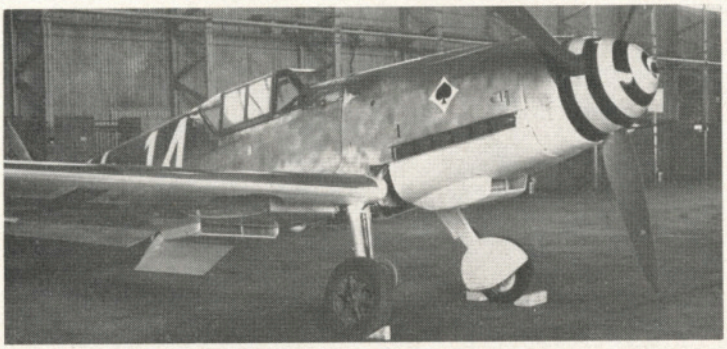


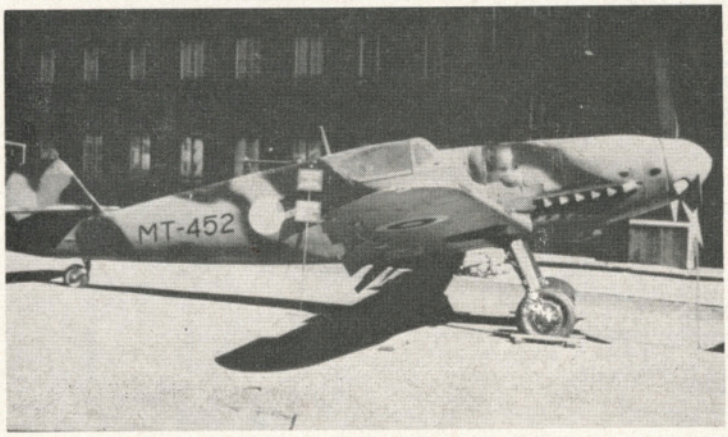
Left, Bf 109F Trop, repainted with spurious insignia, in R.S.A. War Museum, Johannesburg. Below is the Ontario Air Museum (Calif.) G-10 with tall fin, minus propeller (Photo – J. A. Tiley). Below left, the 'Wattisham' Bf 109G-2 with black and yellow striped spinner and Finnish 109G – or is it 'K'?

details again appreciated for the benefit of all. The only other UK-based Bf 109 is the damaged E3, werke nr. 1190 shot down at Eastbourne on 30th Sept., 1940 and taken to USA and Canada for publicity. It is now thought to be undergoing restoration either for a private railway at Buckfastleigh, Devon, or alternative venue.

Finland has two splendid examples on open-air display, one, at Santa Hamina Air Base coded MT-452 and one at Utti Air Base coded MT-507, long regarded as Bf 109K but now (1969) believed by experts to be of the 'G' variety. In the Deutches Museum, Munich, is a Bf 109E werke nr. 790, claimed as a 1944 production, despite the number. Stored at Zemun (perhaps still in the open) for the long-proposed Yugoslav Air Museum near Belgrade, is a Bf 109G, unserialled and for which, as yet, nobody has offered a werke number. Last of the European survivors – and perhaps the oldest, is the Swiss Museum of Transport's example at Lucerne, coded J-355, a Bf 109E supplied from Germany 1939/40 in the batch J-311-390, for the country's defence.

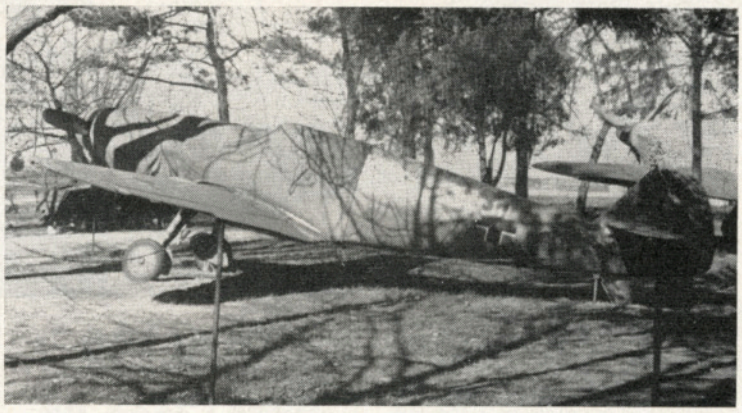




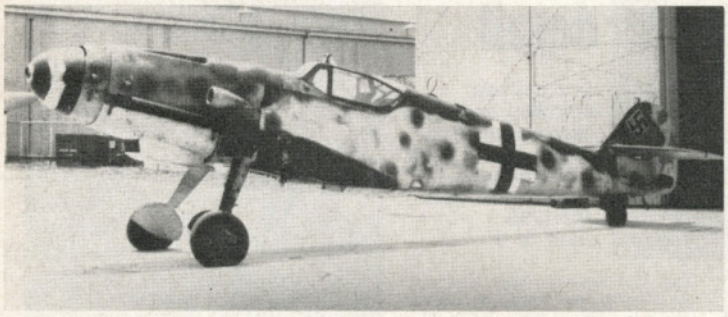


South Africa is fortunate in having two examples on display at their National War Museum,

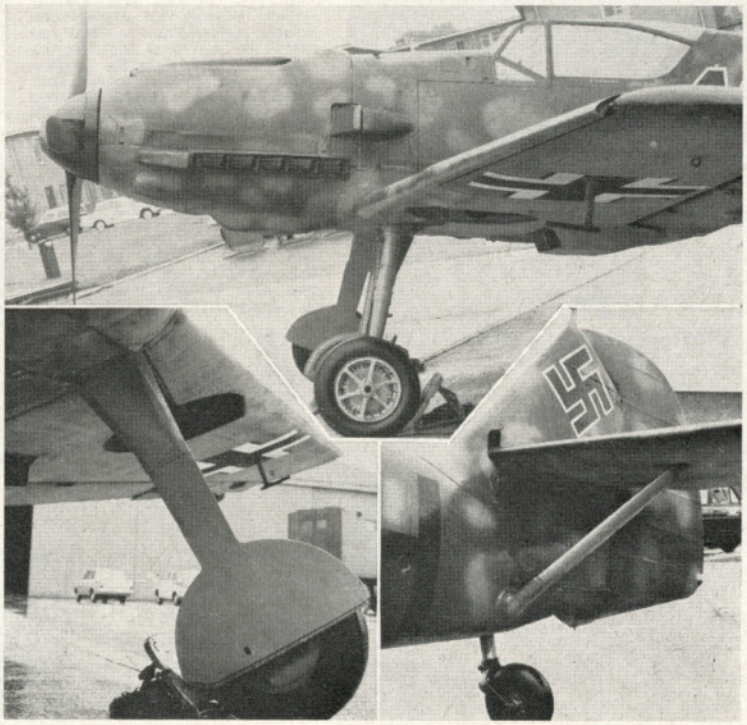
Right: Parked among trees, with other exhibits at Zemun in Yugoslavia is this Bf 109G which is distinguished by an almost 'horizontal' fin swastika. Below is the Australian Bf 109G-12 owned by Sid Marshall. Spinner is black and white.



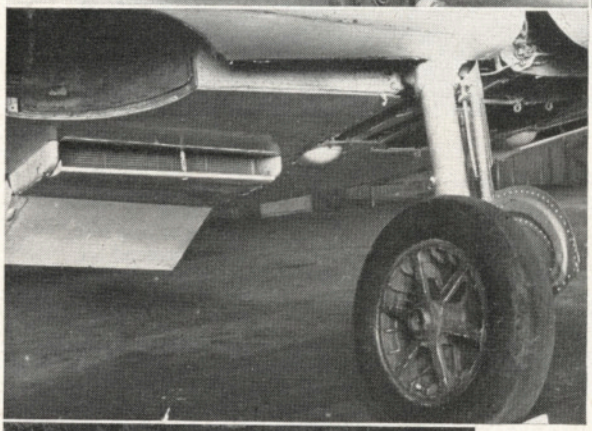
Saxonwold, Johannesburg where, outside, just as though crashed yesterday is the Bf 109E coded '2 FA', shot down over Devonshire during the Battle of Britain and used to boost appeals for savings and forces' comforts. Inside the museum, a BF 109F Trop. coded '6' and for which – as with the other, werke number would be welcomed. Captured by 7 Sqdn. S.A.A.F., it was given the Serial 777 in black. Repainted from the original Farbton 70/71 camouflage it now looks quite different from when it was in the care of the editor 25 years ago and carries spurious nose insignia instead of the original diving eagle (as 60 Sqdn. S.A.A.F.) below the windscreen.



Now to Australia and Bankstown N.S.W., where Sid D. Marshall owns the Bf 109-G-12 werke nr. 163821, reputedly donated for the Australian War Memorial at Canberra but exchanged – like the two Mk. VIII Spitfires at Bankstown – for other Marshall machines. The

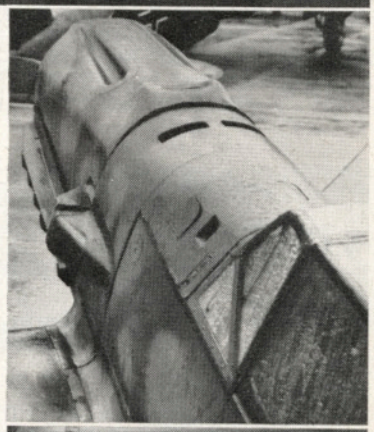


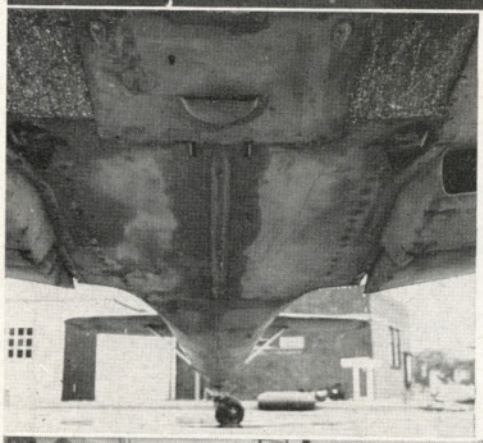
Left: Editor's pose 25 years ago with same Bf 109F still in R.S.A. Museum, though the Ju88, Wapiti and DH9 from the same collection have since – alas – disappeared! Note original insignia by cockpit, of diving eagle. Right, close-up detail of the Biggin Hill 109E-4. Note the wheel cover shape, differs from F & G types; wing leading edge slats, extra transparent triangle below screen, and deeper radiators under the wing – compare with other photographs of F and G types.



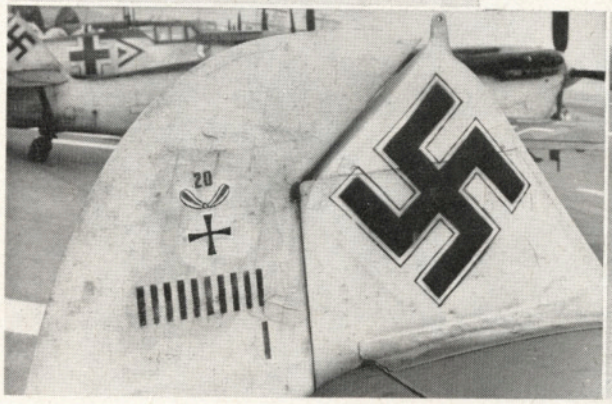
Bf 109 Close-up detail

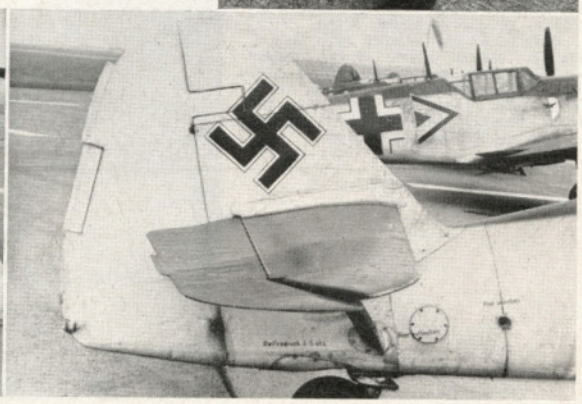
(for cockpit sketches and type description plus 1/48th and 1/24th Scale drawings obtain plan pack JBH2790 price 5/-)

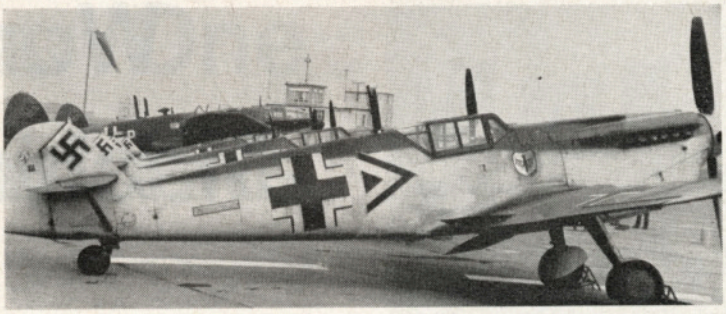




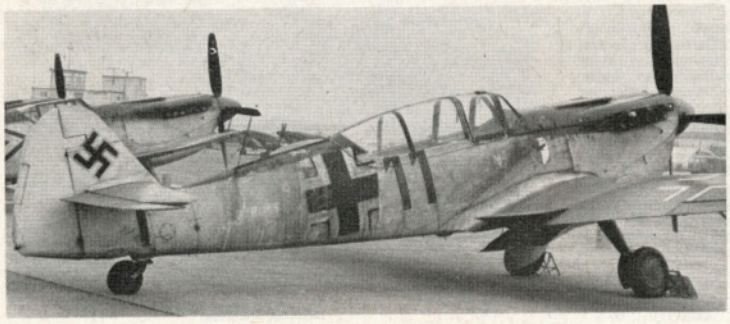
Top, the Spanish built 'Buchon' as used in the 'Battle of Britain' film has dummy wing guns, and, of course, the 4-blade propeller on a Rolls-Royce Merlin engine. Markings for the film include Polish insignia for background scenes. Wheel well, radiator and starboard leg is of the 'Wattisham' Bf 109G-2. Note the shallow rad. intake, blisters cover spar knuckles. Above right is an 'over the nose' view illustrating Bf 109E gun troughs and vents. The underbelly and front view of port leg are of the Bf 109E at Biggin Hill. Note central strake, missing spar joint blisters and use of car tyre! Below, a comparison of the two fin/rudder assemblies. Left is the standard, and right, the taller fin for the G-5 and G-10, etc. as well as the two seat HA-1112-M4L. Dummy tail struts fitted for film purposes.







Film 'doubles', above and right, the single seat HA-1112-MIL fitted with dummy guns and tail struts, wings clipped and paintwork suitably dirtied. The R.A.F. markings were for distant shots, though hawkeyes might spot the tail struts in the film! Below is the rare two-seater, now in Texas. Number 11 is red. A single seater, with yellow 11 is now flying as N9939 with the Confederate Air Force at Harlingen.



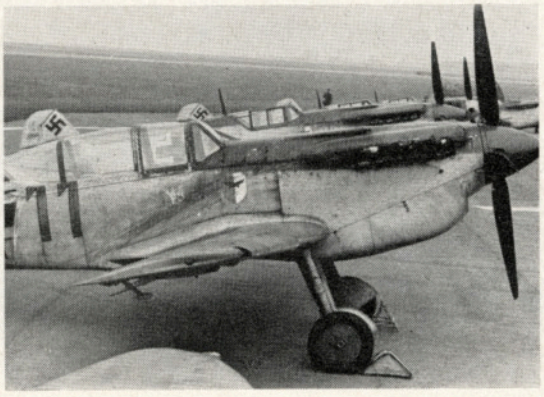
Swiss Bf 109E, the oldest in captivity, belongs to Swiss Museum of Transport at Lucerne. Compare profile with next photo.

machine for display (as also has U.S.A.F. Museum). Elsewhere in the United States the position is somewhat obscure and one can only state that the National Air and Space Museum (Smithsonian Institution as it was formerly known) has in store the Bf 109G which was given the evaluation serial FE-496, but for which no other details are furnished. Also stored, at Ed Maloney's fabulous Ontario Air Museum in California, is a G-10-U4 werke nr. 611943, which was coded T2-122 for evaluation. Confirmation of werke number and history would be helpful as this werke nr. has also been quoted by the same museum for their Me 108 'Taifun'. John W. Caler of Sun Valley, California, is said to be restoring the G6 which was FE-123 or FE-124 and – again – the writer, and readers no doubt, would welcome progress report and confirmed identity. One wonders if more genuine 109s exist – in Roumania, Turkey, etc.? Please tell the editor – and send him photographs.

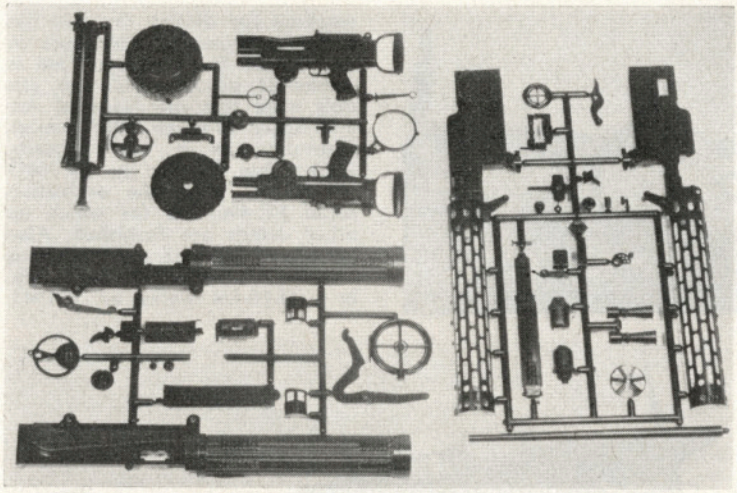
history of this example would please enthusiasts everywhere.

New Zealand and Canada, regrettably, have no Bf 109s, though the Canadian National Collection has acquired a Spanish-built

Spanish HA-1112 has higher thrust line due to upright Vee Merlin plus chin radiator and cylinder blisters. Note also the two seater canopy profile. The hood slides aft.



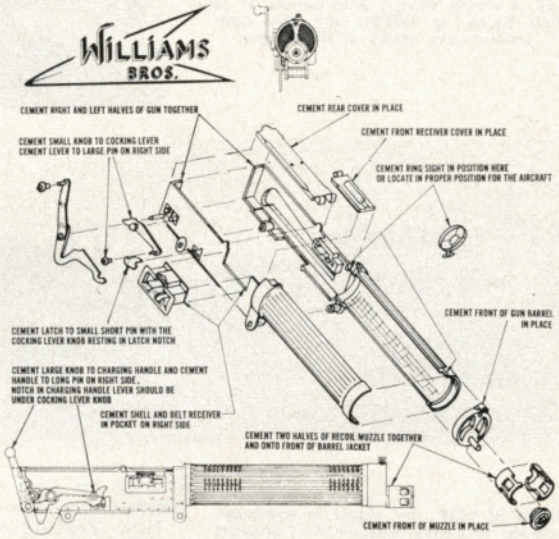
World Machine

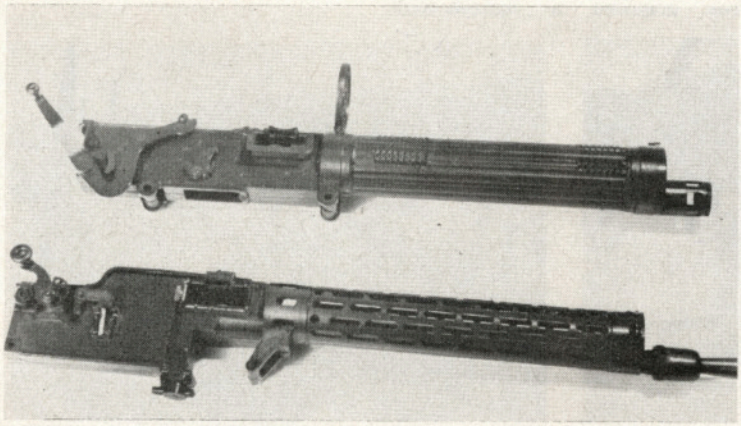


THE name of Williams Brothers of Bell, California, is well known to the flying model fraternity as manufacturers of high grade plastic accessories such as spinners, wheels, dummy pilots, etc. Their latest release, a set of aircraft machine guns in 2 in. scale is designed for the same market, but there is little doubt that the plastic modeller will be unable to resist putting these little gems together. Military buffs will soon see the potential in the Lewis and Vickers as subjects for modification into the ground versions. The first three guns of the series are now available and consist of the Lewis, Vickers and Spandau. These are all in 2 in. scale, which gives them an average length of about 7 in. Williams Bros. intend issuing $1\frac{1}{2}$ in. and 1 in. scale versions of the guns at a later date. Scheduled for release later is a Parabellum.

Moulded in a very dark grey plastic, the kits look as though they could be assembled in about five minutes, but this is deceiving. They contain quite a large amount of detail, much of which is integral with the main components, and care should be taken to follow the instructions on the leaflet supplied, especially the sequence of assembly in the case of the Spandau. There is a little flash and great care should be taken to ensure that this is removed cleanly to ensure that the main joints are as close as possible. The reason for this is that the base colour of the plastic is as close to the actual colour of the gun as possible, so that filling should be kept to an absolute minimum. Nevertheless,

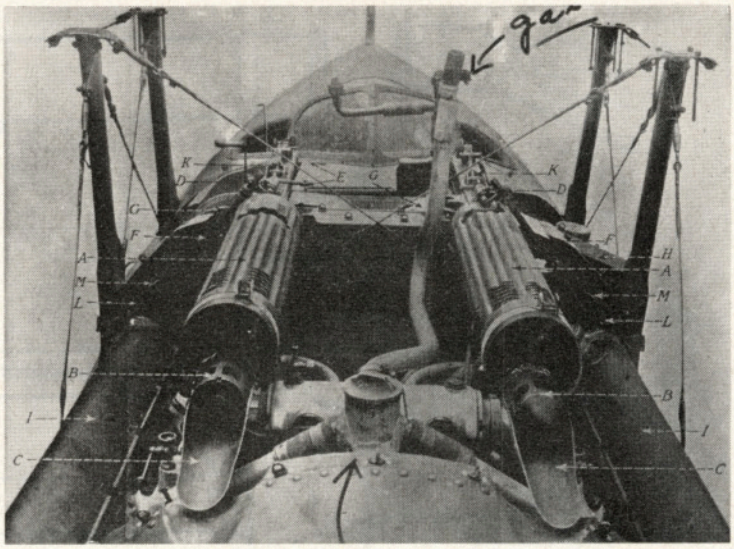
Above: The three Williams' brothers machine gun kits available to date to 2-inch scale; at right is a typical instruction leaflet and below: examples of the Vickers and Spandau completed, with techniques described in this feature by Harry Woodman.

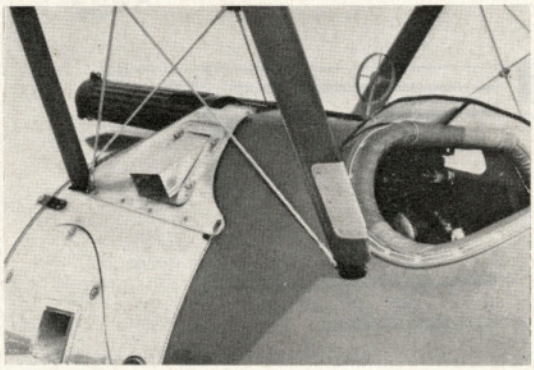




War One Gun Kits

How to obtain realism in detail and finish, by Harry Woodman of International Plastic Modellers Society





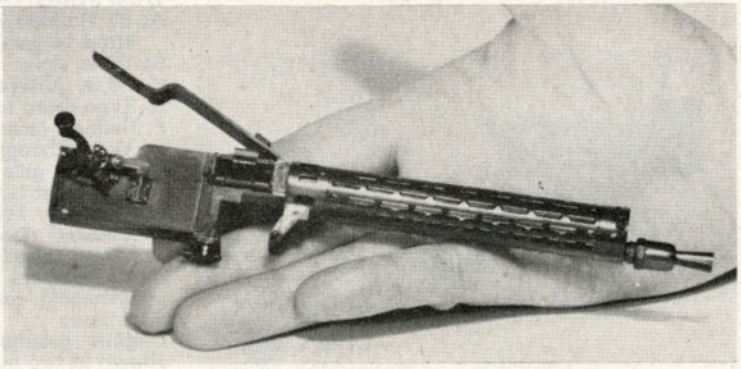
Twin Vickers fitted to SPAD S 13: Note long anti flash shields fitted to SPADS and Nieuports. The gun on the right of picture has an early ground type cone fitted to muzzle. Note also extensive cutting away of jacket at rear and synchronising gear. Left, Nash Collection Sopwith Camel, now in the R.A.F. Museum, with twin Vickers installation. Below: size of Spandau kit evident in this view where rear cover is lifted to show the kit has working parts.

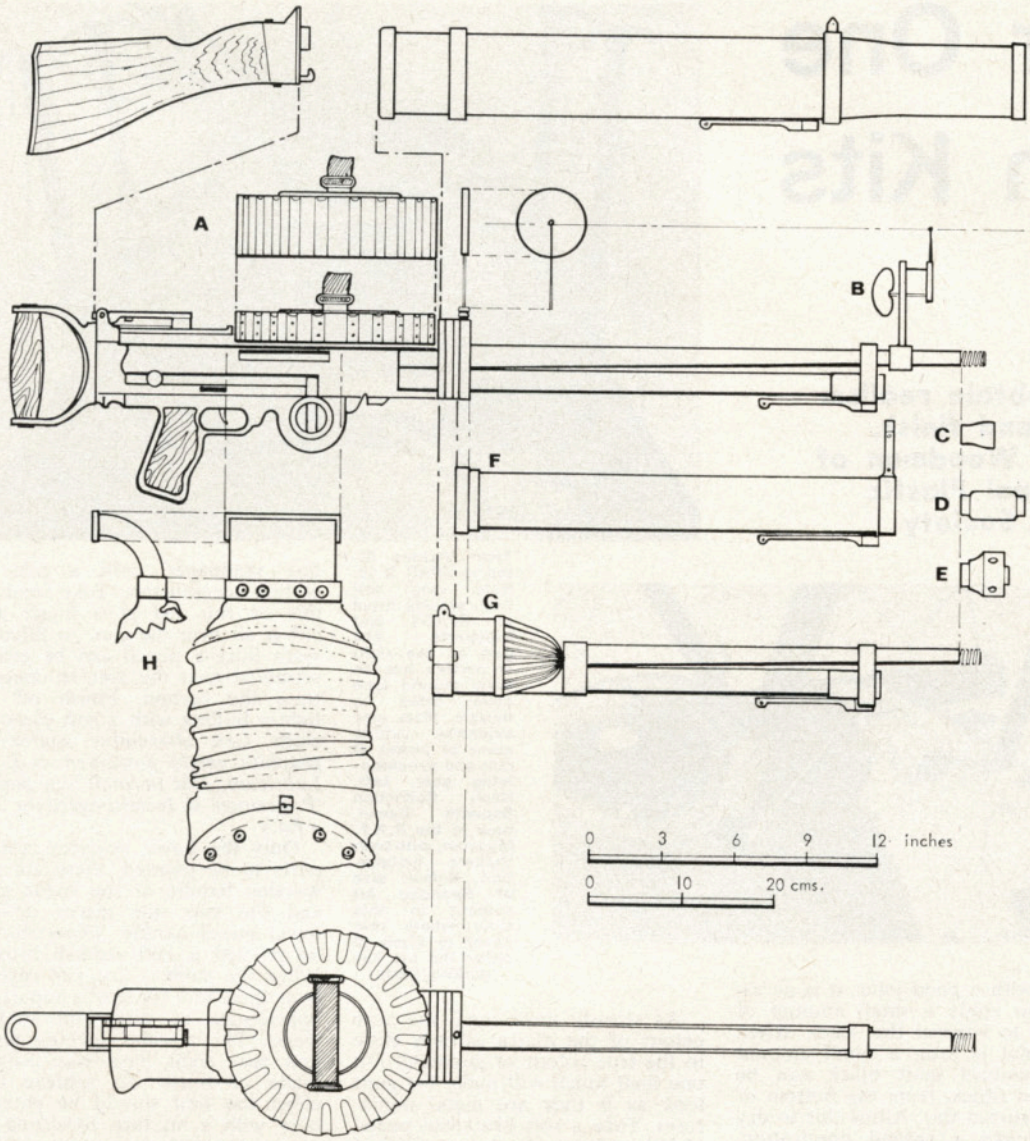
even with a good joint, it is necessary to apply a small amount of filling to conceal the seam. When the joint is firm, a small amount of Humbrol matt black can be applied (thick, from the bottom of an unstirred tin). Allow this to dry and make a second application. When this is completely dry, and this will take at least two hours to thoroughly harden, rub over gently with a piece of wet and dry emery paper lubricated with soap.

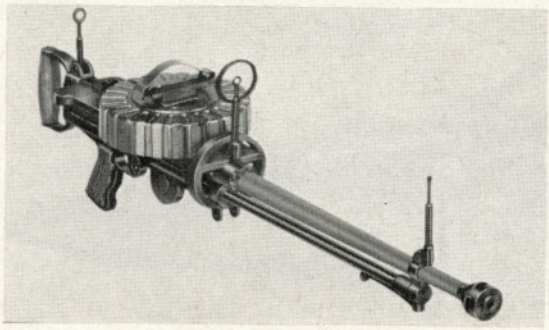
With any plastic kit, care should be exercised when removing items from the sprue 'trees' but in the case of the Spandau perforated jacket halves, a very light touch is required. The manufacturers have made this item as thin as they dare and it should be treated very gently or the upper central row of slots may be spoiled. This also goes for the ring sights on all guns which require cleaning up and refining after removal.

As already mentioned, the base colour of the plastic is very close to the true colour of gunmetal but one final touch will make the guns look as if they are metal miniatures. Take a soft blacklead pencil (4-5B) and rub it over a piece of fine sandpaper until a pile of carbon accumulates. Take some of this on the end of a finger and rub it all over the gun. At filled-in seam lines a pencil can be gently scribbled over the area to concentrate the carbon. Finish off by lightly buffing with a soft piece of cloth. (*An alternative source of graphite, ready powdered, is Lock Lubricant, sold in small blue plastic 'Policemen' at Ironmongers for 2/– – Ed.*)

Only the Lewis requires certain parts to be painted, these are the wooden handle of the spade grip and the two side pieces of the lower guard handle. These should be painted a dull reddish brown. When the paint is dry, rub carbon over these too, for it will impart an appearance of dirty, oil soaked wood. The circular locking piece and rear sight base was usually made of brass. To achieve this effect the unit should be painted over with a mixture consisting of one part gold, two parts bright



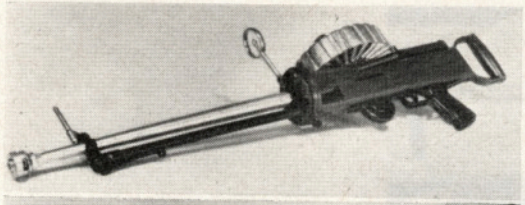


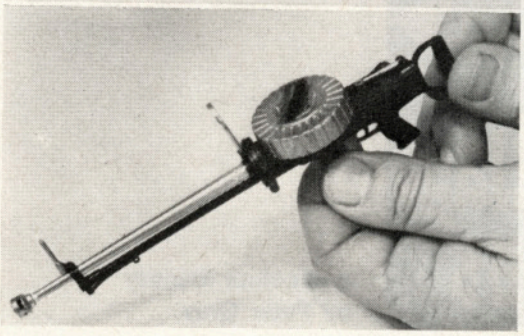


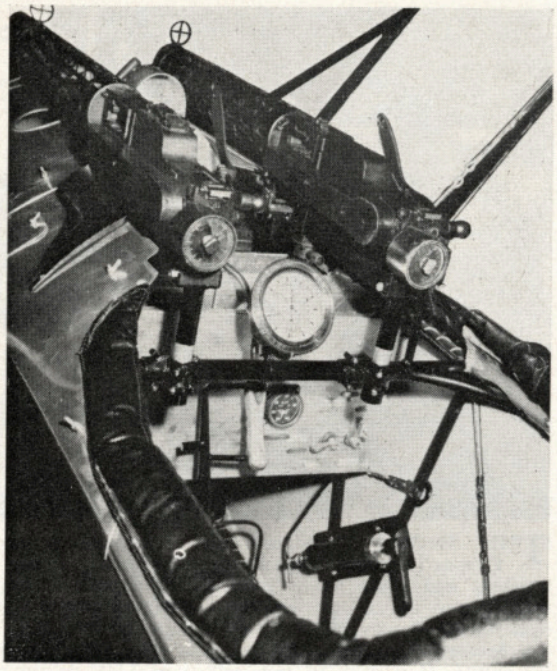
1/8th SCALE LEWIS DRAWING:

A: 97 Rounds drum (older 47 round drum shown fitted to gun)
B: Vane sight
C and D: Anti-recoil check assemblies
E: Type fitted to U.S. 1918 model
F: Refined jacket fitted to Lewis in early years of War although seen in photos taken later
G: Cooling gills exposed, these were later removed altogether but many guns used still carried them, especially French Darne-built Lewis guns
H: Canvas ribbed bag fitted to collect ejected cases, usually fitted to pushers and nose guns of bombers to prevent cases hitting pilot or damaging parts of machine; also for economic reasons

Original ground radiator case and wooden butt shown at top of drawing.







Lewis Gun from Williams Brothers kit above, view on opposite page also from the plastic kit. At right; twin Spandau guns as mounted on the Fokker D7 in R.A.F. Museum.

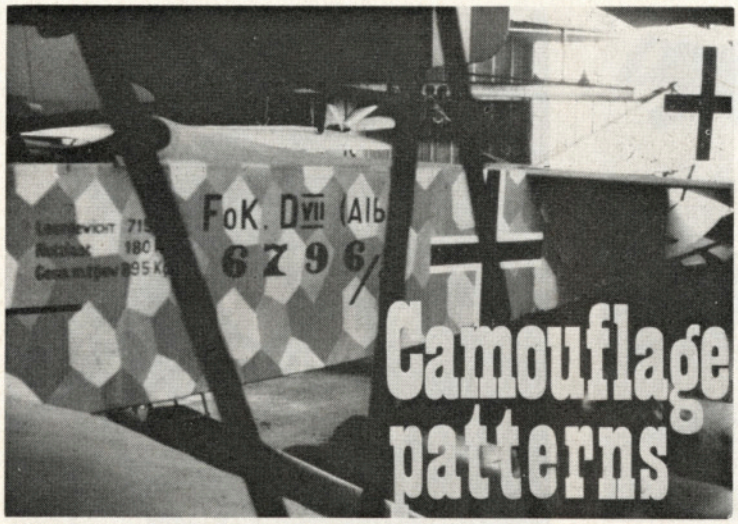
yellow and one part silver. On rubbing over with carbon the piece will assume the appearance of dirty brass. Anyone not used to mixing metallic paints should practice first on a piece of scrap plastic. A further realistic touch can be added by painting *a few very slight* streaks of copper onto some of the ridges of the Lewis drum to suggest scratch marks. Again, carbon rubbing will tone down the bright copper and impart a true metallic finish. An article in a recent U.S. magazine suggested using Rub 'n Buff on the Vickers gun to 'add realism'. Nothing could be further from the truth for the result will be to make the gun look as if someone had touched it over with a silver Aerosol spray.

Both the Lewis and the Vickers offer scope for modification. The spade grip of the Lewis can be replaced by a standard butt stock and a radiator case can be added to convert it to a ground or shipboard gun.

The Vickers presents some difficulty inasmuch as the extra slots in the jacket, which of course are correctly reproduced in the gun kit, will have to be removed if the gun is to be converted to a ground version. The obvious method is to remove these by careful cutting, filing and sanding, but this will be a long job fraught with hazards. An easier way is to recover the jacket surface with a straightforward fluted surface. In this method the entire *fluted* area on the jacket must be pared down to allow for the extra thickness of the refacing material which is metal foil (not the thin kitchen type but the slightly more substantial type of foil used in packaging frozen food items, pies and cakes, etc.) If the reader is uncertain of this method, he should, of course, try making the new jacket skin first before paring down the plastic. A piece of foil (made quite flat) should be placed on a surface with some give (e.g. a writing pad), using a steel rule, a number of parallel lines should be heavily engraved using a suitable round ended tool such as a ball point pen. The lines should be the length of the fluting on the plastic jacket. Make enough lines to ensure that there will be some overlap at the joint when the material is curved to encompass the plastic jacket. The tendency will be for the foil to curl up the wrong way, but after all the lines are engraved it should be gently flattened out and then curved over a cylinder such as a thick pencil in the opposite direction. If this is placed over the plastic jacket, the effect will be seen to be quite realistic and if done carefully, can be even better than the original moulding. Careful cutting and engraving (especially *even and parallel* strokes) will ensure a neat job. To stick the new surface onto the plastic, varnish is used. Humbrol gloss is extremely effective as an adhesive providing the user does not expect instant results. The surface of the scraped plastic jacket should be painted with the varnish (very well stirred) as should the inner surface of the foil refacing. The foil should be placed in the correct position after the varnish has had a few minutes to become tacky. If the foil has been carefully and accurately cut, the two sides should meet exactly along the under surface of the jacket and the entire jacket should be wrapped in tape (masking tape in preference to Sellotape as the latter has a tendency to leave deposits behind). The gun, in this condition, should be left overnight and when the tape is carefully removed it may be necessary to very gently sand the joint underneath with emery paper. The foil can now be painted with a mixture of three parts Humbrol flat black mixed with one part flat white and when dry, the usual carbon rubbing will bring it to the same colour as the remainder of the gun.

The Spandau has some moving parts which can be 'lubricated' by scribbling over the surfaces with a very soft pencil (6B). Incidentally, this method of reducing friction can be used successfully on moving parts of any plastic model.

Williams Brothers Gun Kits retail in this country at 13/11d. each plus 1/6d. post & packing, from Henry J. Nicholls & Son Ltd., 308 Holloway Road, London, N.7.



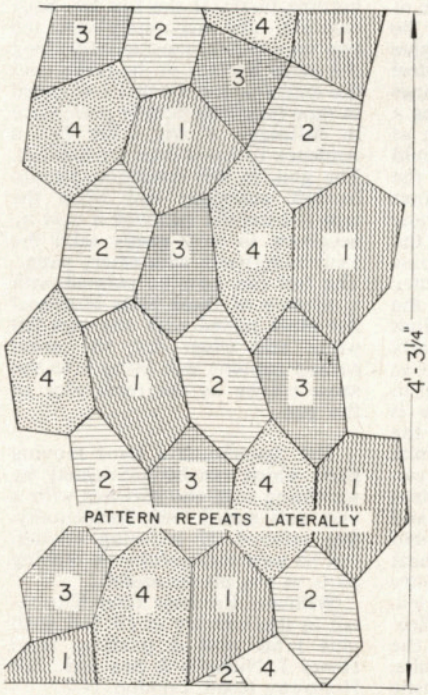
Camouflage patterns

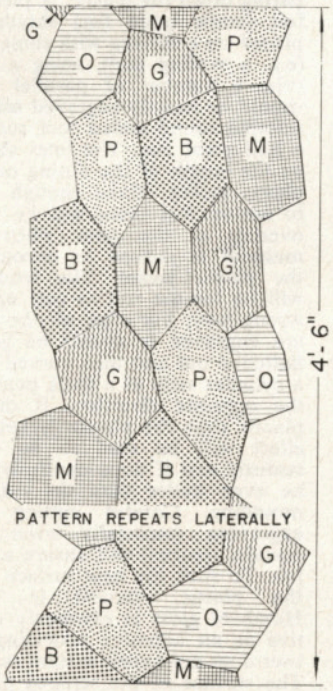
and colour identity

by Peter Gray

THE *Methuen Handbook of Colour* is exactly what its title suggests and gives much general information on colour, identification, harmony, contrasts, etc., without becoming too technical and in lay terms. It is easy to use, self-explanatory and consists principally of 30 double page colour plate charts ranging through the spectrum. Each is numbered and divided vertically into six columns consisting of eight shades or tints of the main hue. This arrangement gives a total considerably in excess of 1,000 colour samples. The Plate columns are indexed alphabetically (A, B, C, D, E, F) across and numerically (1, 2, 3, 4, 5, 6, 7, 8) down the page to provide an immediate reference. Exact matches are not always possible but it is a relatively simple matter to assess 'in between' colours and the permutations of this would cover almost any eventuality.

Colour plates are followed by a

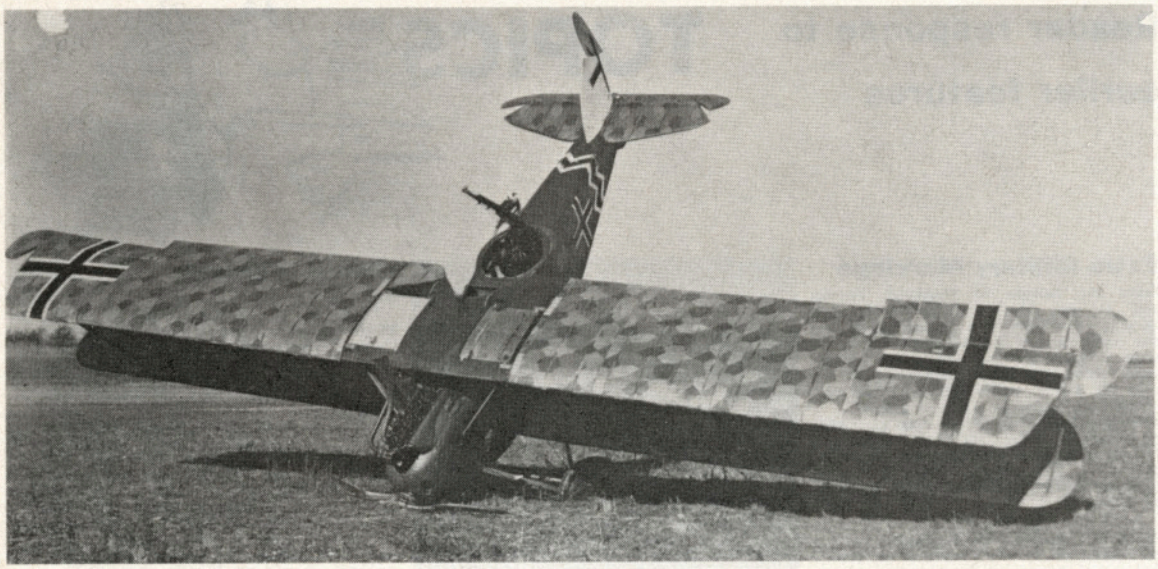




Ten and a half years ago, Peter Gray completed the culmination of considerable research undertaken by H. D. Hastings of the U.S.A. and himself in the first authentic feature published on W.W.I German aircraft fabrics. This appeared in April 1959 'Aeromodeller. Since then the pattern has been confirmed many times – and widely reproduced. It has been used for full-size aircraft restoration. The two patterns at left, and their colour identities at right are now allied to the Methuen identity system, which Peter Gray explains in the text. The colour names quoted are from the Methuen 'Colour Names Chart' and are not, of course, the original German dye reference.

Photo above is of the Fokker DVII at Chalais Meudon, France in the Museé de l'Air. The late Jean Salis admitted long after the photo was originally published that this was not printed fabric but his own stencil-painted effort, though it was close to the original. Both pattern and colours have been widely accepted as a true reproduction of the original printed fabric.

Above right is a Halberstadt CV showing covering of wings and tail with the 5-colour pattern printed fabric.



Colour Dictionary section giving colour names, derivation etc., together with chart references. This is followed by 30 charts corresponding to the colour plates which give the colour *names* as/where/when applicable. These are again followed by a further 30 charts giving conversion to the American Munsell system references together with notes on the Munsell Notation. The Munsell reference book does not seem to be readily available in the U.K. but the references are included for the benefit of our American readers. It is based on different values but these are explained in the Methuen book.

4 COLOUR PATTERN

Top Surface	*Methuen Ref.*	*Munsell Ref.*
Dull Blue 1	21D4	6PB/4.9/5.1
Deep Turquoise/ Green 2	24E7 – 25E7	5B/3.4/4.6 – 7BG/3.7/4.4
Olive Brown/ Dark Blonde 3	4D4 – 5D4	5Y/5.9/2.9 – 8.5YR/5.5/2.8
Pea Green/ Absinthe Green 4	29D5 – 30D5	5GY/5.9/3.1 – 2GY/5.9/3.1

Bottom Surface	*Methuen Ref.*	*Munsell Ref.*
Dull China Blue 1	23D4	2.5PB/5.1/4.1
Dull Greyish Green 2	26D4	7G/5.4/2.3
Brazen Yellow/ Yellow Ochre 3	4C7 – 5C7	5Y/6.3/8.4 – 9YR/6.0/8.3
Greyish Rose 4	11B5	9RP/6.2/6.7

5 COLOUR PATTERN

Top Surface	*Methuen Ref.*	*Munsell Ref.*
Deep Greyish Violet M	Between 17E5 – 17E6	Between 2.5P/3.6/5.5 – 2P/3.0/6.8
Honey Yellow/ Khaki O	4D6 – 5D6	5.5Y/5.8/5.6 – 8.5YR/5.2/5.3
Deep Greyish Green P	28D5 – 28D6	6.5GY/5.7/3.2 – 7GY/5.6/4.4
Deep Greyish Turquoise G	24E6 – 24F6	6B/3.7/3.9 – 7B/2.9/3.0
Dullish Deep Blue B	21E6 – 21E7	5.5PB/3.2/6.4 – 5PB/2.9/7.6

Bottom Surface	*Methuen Ref.*	*Munsell Ref.*
Greyish Magenta M	14D4 – 15D4	9.5P/5.1/5.1 – 5.5P/5.0/5.3
Amber Yellow/ Wheat (Golden) O	4B6 – 5B6	3.5Y/7.6/7.7 – 7.5YR/7.3/7.6
Greyish Ruby P	12C5 – 12D5	5.5RP/5.4/5.9 – 5.5RP/4.6/5.2
Greyish Turquoise/ Green G	24D4 – 25D4	8.5B/5.3/2.7 – 1.5B/5.3/1.9
Copenhagen Blue/ Greyish Blue B	21D6 – 22D6	6PB/4.0/7.9 – 4.5PB/4.3/7.4

'Methuen Handbook of Colour' *by A. Kornerup and J. H. Wanscher. 2nd Edition readily available most main libraries.*
It should be pointed out that these references are to *specific* pieces of fabric (i.e. Albatros DVa, Pfalz DXII and Fokker DVII) and that in different dye lots hues undoubtedly varied *marginally* as has been proved by examination of other fabric samples. It is stressed, however, that the variation is only *slight* and that shades and tints were reasonably constant.

TECH: TOPICS

Reader response to earlier features

Extra Military Markings

From Mr. Burgin of Sheffield: Trucks and carriers of 1st Battalion London Scottish had the 56th Division sign on the right side of the bumper. The signs were usually painted over when in forward areas, but when withdrawn to the rear the signs, sometimes all, but very often one, were painted on again.
Author's comment: *Mr. Burgin also sent a 13 Corps badge, showing the gazelle facing left, in a white circle on a red diamond. The badge shown in the October article was that used by H.Q. 13 Corps.*

From Mr. Dunham of Solihull: I would be interested to know whether the article about 1st Armoured Division is correct. (November issue.) I enclose two photographs (showing a Rhino badge, one reproduced at right) taken when I was a tank transporter driver in the Middle East. These were taken about 1947.
Author's comment: *1st Armoured Division badge shown in the November article is that illustrated in 'Heraldry in War' by Lt. Col. Cole. 2nd Armoured Brigade badge was taken from the collection in the Imperial War Museum. See next letter.*

From Mr. Horsfield of London S.E.15: In the second article, in his description of Squadron markings, Mr. Wise omitted the H.Q. Squadron, a diamond, which was carried on the squadron staff vehicles. Also, there was a squadron sign, a vertical oblong, which as far as I know was only used by one unit, the 7th R.T.R.

In the caption of the Matilda tank photograph, Mr. Wise appears to be saying that the 2nd Armoured Brigade, which was part of the 1st Armoured Division, carried a different style Rhino emblem. In fact, the two Rhino emblems would be correct for 1st Armoured Division vehicles, as the Divisional signs of all divisions were either deliberately altered or mistaken were made when the stencils were applied on the vehicles. I have seen at least four different styles of Rhino emblem on various tanks on various dates. The same can be said about the 7th Armoured Division sign. In the North African campaign, the Desert Rat sign carried was a red jerboa in a white circle on a red square. Also, the 44th Infantry Division sign was often carried on a white square.
Author's comments: *Mr. Horsfield is correct about the H.Q. sign which I overlooked in the second article. The symbol was also used by the H.Q. Fighting Troop, usually the tanks of the Squadron Leader and his 2 i/c. With regard to the variations in Rhino emblems, I refer readers to Mr. Dunham's letter and photo, my comment, and also Mr. Burgin's point about signs being painted out in forward areas. Were these badges really altered, presumably to confuse the enemy, or were variations only caused by a lack of standardisation? Can any reader solve this problem for us?*

Rhino Variant sent by Mr. Dunham.

132 Squadron Leopard

Dear Sir,

Bob Jones is in error in the November issue when he refers (page 129) to the badge of 132 Squadron as a Lion. It was in fact a *Leopard*, and the Squadron motto was *'CAVE LEOPARDUM' (Beware the Leopard).*

I enclose a snapshot of myself, a pilot on the Squadron, standing in front of *KILLER Q*, and the badge can be seen quite clearly on the nose.

Congratulations on your excellent magazine, I find it extremely interesting.

Cheshire. *R. S. Capewell*

Giving it 'Stick'

Dear Sir:–

I wonder if your contributor, J. D. McHard, can clarify a point mentioned in his conversion of the Lysander?

He mentions the use of Elastic Plastic Padding, however, after trying some of this I found that it would not solidify.

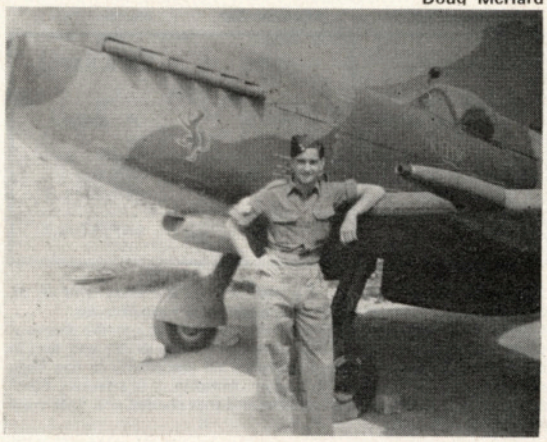
A check of the instructions indicated that I had followed these correctly, but they also pointed out that the material is not suitable for soft plastics. A subsequent check with a plastics expert also indicated that this material is not suitable for use with polystyrene. Was Mr. McHard just lucky, or does he have some other method of mixing Plastic Padding?

Newbury, Berks. *Bryan Philpott*

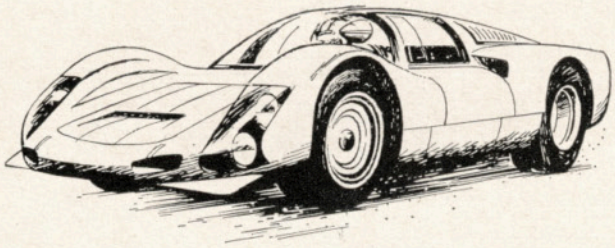
Reader Bryan Philpott is quite correct – Plastic Padding does not stick satisfactorily to unprepared polystyrene, and this shortcoming was pointed out in Caption 7 on page 26 of **Scale Models No. 1.** *However, body putty DOES stick well to polystyrene – A.M.T. is especially good – and a thin smear-coat dries very quickly. Plastic Padding will now adhere very firmly to the putty-smeared plastic surface and its ease of shaping, complete absence of again and rapid drying – irrespective of thickness, more than compensate for the adhesion problem. If, in addition to the putty, some other mechanical fixing can be incorporated (the pin in the Lysander fuselage), so much the better.*

Plastic Padding may be obtained in either 'Hard' or 'Elastic' (soft) varieties. The former is recommended where any stressed attachment is to be made, and, the latter where ease of shaping is a prime consideration. The 'Elastic' form seems to be more critical as to the proportion of hardener used in preparation and certainly takes longer to 'go off'. Old stock is also suspect and may be reluctant to set properly.

Doug McHard



Reader R. Capewell and his Spitfire XIVe at Hong Kong showing Leopard insignia and 'Killer Q' below cockpit.



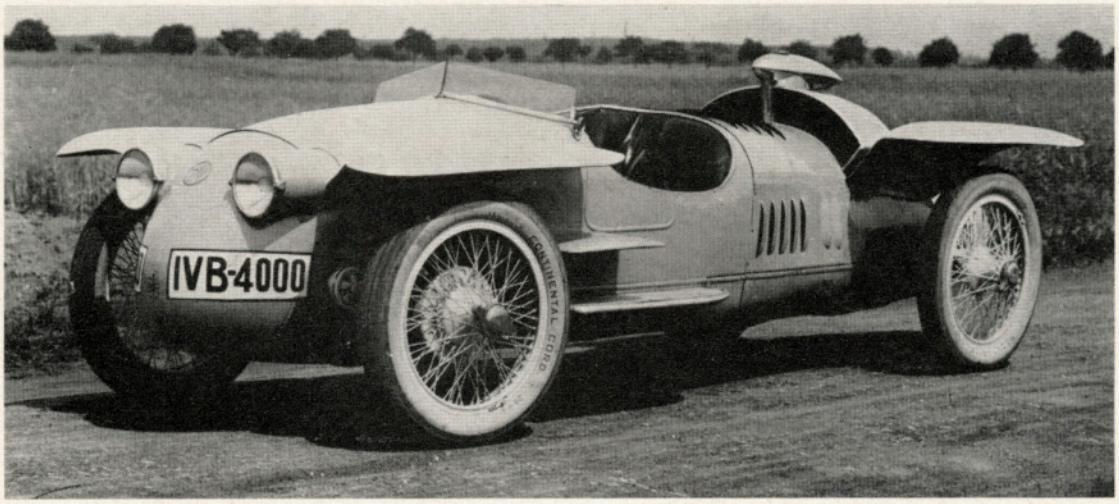
AUTO

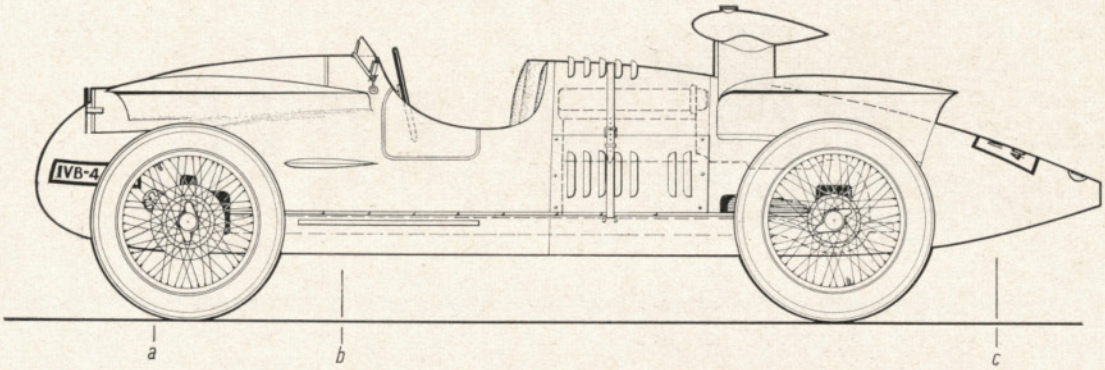
1922/25 Two Litre BENZ Tropfenwagen Sports Car

described and drawn by A. KAY

IN 1922 THE GERMAN firm of Benz introduced an unorthodox design for a racing car of that period, having a 2 litre engine *behind* the driver, and a streamlined body shaped like a teardrop. The car was produced by Benz under patents held by Dr. Rumpler. A team of three cars appeared at the 1923 European Grand Prix, but they did not come up to expectations, one retiring, and the other two finishing 4th and 5th. This setback seems to have damped the appetite of the team for Grand Prix's, and their attention turned to hill climbs, in which they were much more successful. The cars were driven mainly by Willy Walb, and Herr Rosenberger.

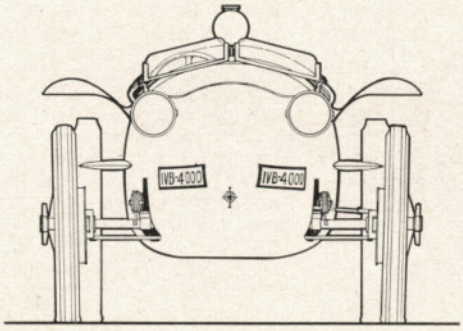
Willy Walb joined Benz in 1914, starting in the aero engine department, and after the war he took over from Fritz Erle in the research and development department. His fine showing as a team driver with the racing car, led to works entering events in the sports car class, where they thought they would have more success. Nothing was really wrong with the engine and chassis, and all that was necessary was to discard the racing car body, and design a new two-seat sports car body. Herr Rumpler prepared new designs and came up with a basically teardrop shape, but having the curves of the racing body flattened, giving a squashed, heavy appearance. The nose was fairly streamlined on plan, but very blunt in elevation, dropping down sharply to curve round and run into the undertray. The sports body was wider than the racing car and Rumpler's aeronautical thinking is shown in the design of the flared wings at front and rear. Between these wings and the curved nose, were inserted two headlamps in streamlined fairings. Seating was staggered as before, and the car retained the large, curved radiator straddling the body between the rear wings. Two large rubber covered steps are situated





low down on both sides of the body, and mid way between these and the front wing fairings, are streamlined mud guards. Just in front of the cockpit are two large aero screens splaying back from the centre.

The cars were finished in white, with black registration letters, on I think, yellow panels outlined in black. In this form the cars had many successes, including finishing first in both the 1924 Königstuhl hill climb in front of three Mercedes, and the August Freiburg hill climb. Although the Benz Tropenwagen racing and sports cars did not fulfill their earlier promise, it was Herr Rosenberger's experience with the Benz that led to the all-conquering Auto Union car. When Benz became part of the Mercedes organisation in 1926, the wealthy Rosenberger decided to finance the design of a racing car, having a rear engine. In 1931 Dr. Porsche was commissioned to prepare drawings for a 16 cyl., swing axle rear-engined car, and in 1933 Auto Union took over the design, and built a team of 'A' type P Wagens that were to become so well-known and successful.



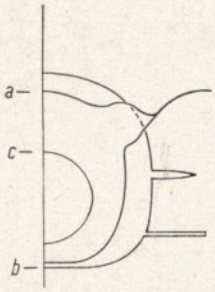
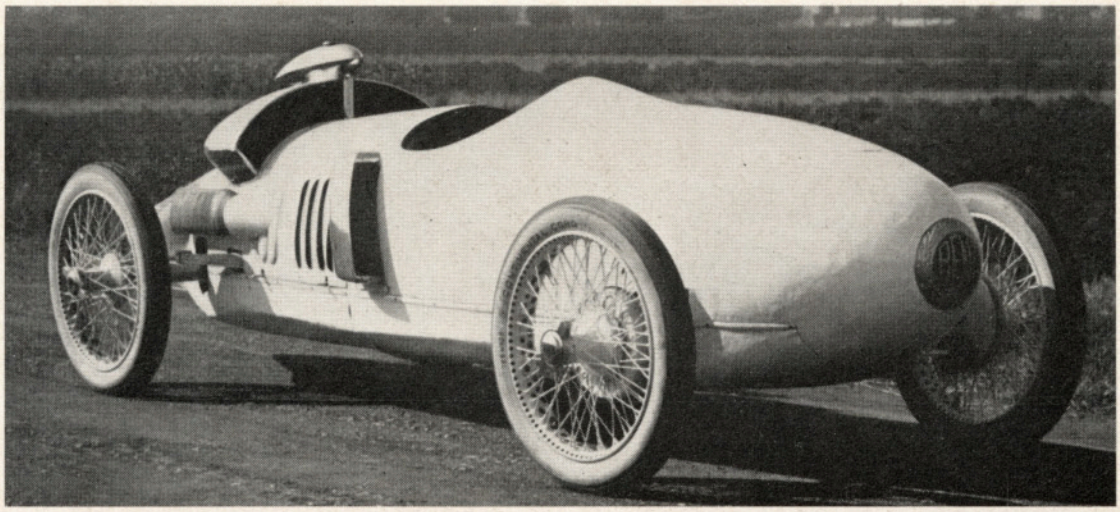


Photo from the A. Russell-Black collection shows the original single seat racer, revolutionary in its time for the rear mounted engine; subsequently developed into the 2 seater.

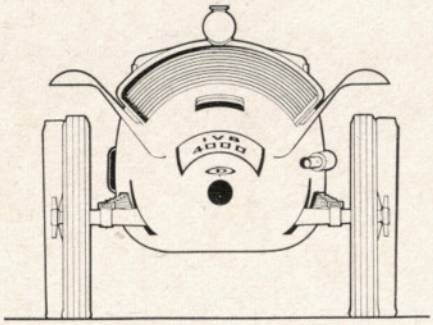


A Selection of Car Plans from our vast range. These are 1/32nd scale, 2/- each pair.

MM/878	1963	Aston Martin 215 Zagato
	1921	Aston Martin 1½L. G.P.
MM/879	1933	Napier Railton
MM/880	1935	Auto Union Rennlimousin
	1931	Alfa Romeo Monza 8C—2300
MM/881	1904	Panhard and Lavassor
	1965	Maserati 152
MM/882	1965	Ferrari Dino
MM/883	1938	Mercedes Benz Type 540K Special Roadster
MM/884	1926	Vauxhall 30-98 Wensum
MM/965	1965	Lotus 38
MM/966		Avus Mercedes Benz
MM/967	1954	Lancia D.24 Sports
	1953	Bristol 450
MM/968	1965	Shelby Daytona Cobra
	1955	Felday 4
MM/969	1964	Hussein Mk. 1
		Porsche Carrera 6
MM/970		Messerschmitt 500 Mini Moke
MM/971	1965	Chaparral 2E
	1965	Ford G.T.
MM/972	1965	Chapparal 2D
	1966	Anglo American Racers Eagle
MM/973	1962	Amilcar G.6
	1923	Voisin G.P.
MM/974	1966	Ferrari 330 P3
	1967	Ferrari 330 P4
MM/975		Lamborghini 350 G.T.
		Lamborghini P400 Muira
MM/976	1956	Renault 'Shooting Star'
MM/977	1929	Morgan Sports
	1929/32	Austin Ulster
MM/978		Brooklands Riley
		Bugatti Type 40
MM/979	1923	TT Replica Fraser Nash
	1948	H.R.G. 2 seater Sports
MM/980		Lotus 7
		Lotus Super 7

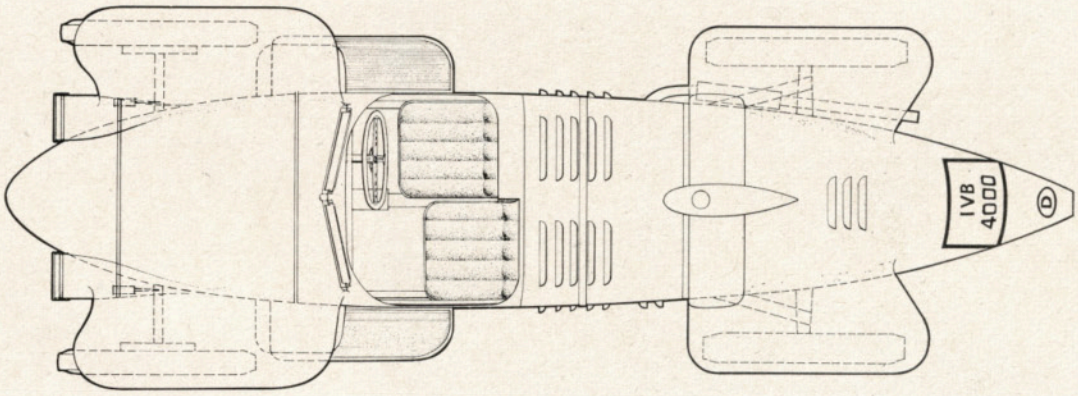
Author A. Kay at work on his scratch built models of classic vintage subjects – photo by Peterborough Evening Telegraph.

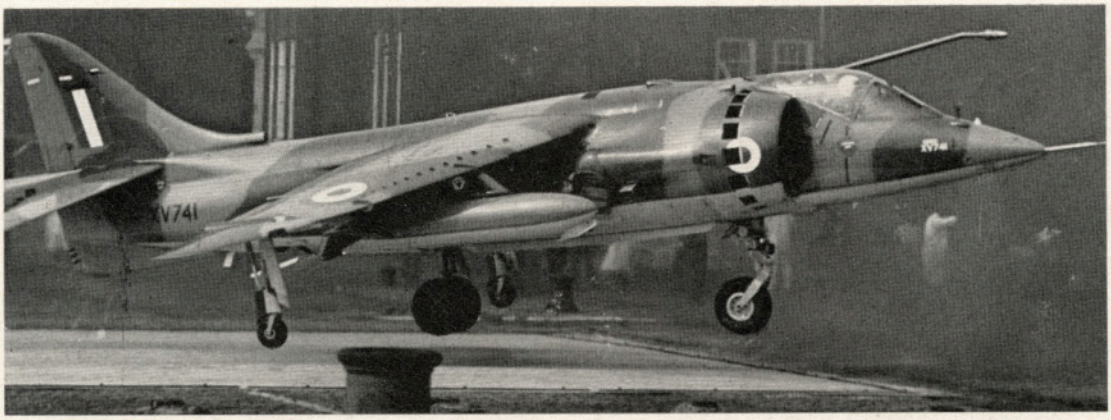
ALL VIEWS ARE TO 1/32nd SCALE



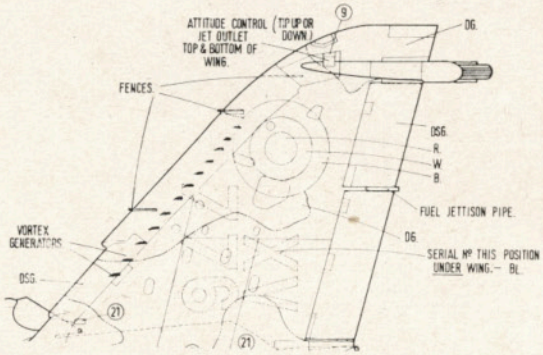
Dimensions:

Wheelbase	9 ft. 1½ in.
Track: front	4 ft. 7 in.
Track: rear	4 ft. 1 in.
Tyres	29 x 4



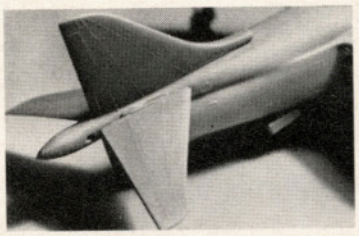


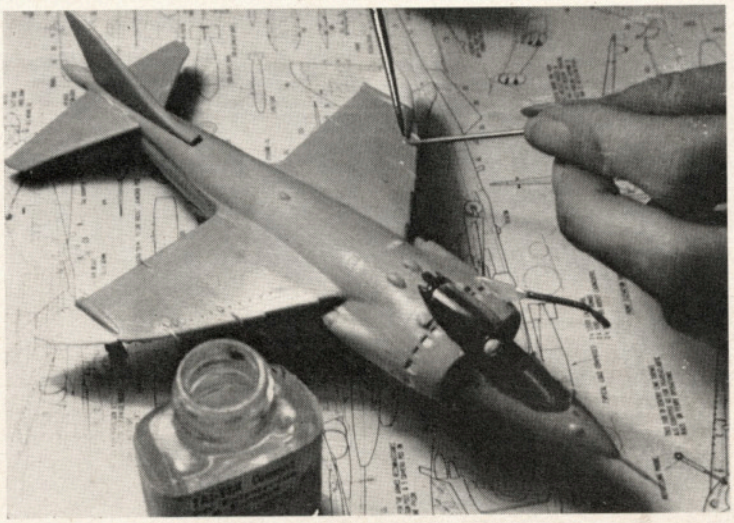
AIRFIX 1/72nd HAWKER HARRIER



Re-modelled to transatlantic race version by Pat Lloyd

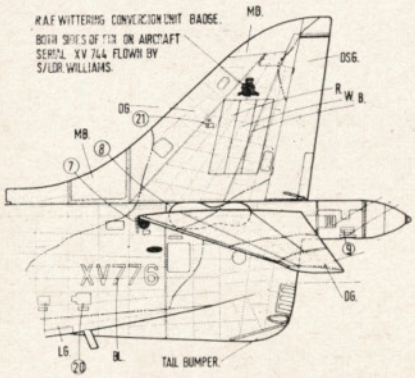
Drawings to 1/72nd Scale



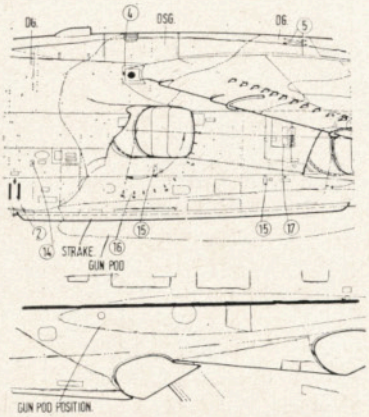


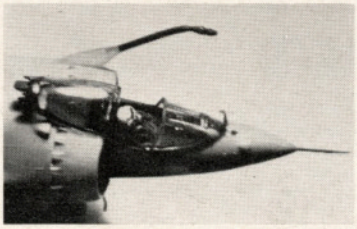
Model almost completed before painting (not recommended!) shows method of adding chips of Plastikard to represent additional Vortex generators.

EXAMINATION of the 1/72nd scale Harrier kit assures one that *Airfix's* value for money image is as shiny as ever. A prolific variety of armament/role combinations is provided for choice. But suddenly there it was, gone! – no refuelling probe! Earlier this year due to the good offices of the Ministry of Defence I had been able to sample the press facilities provided for the Transatlantic Race, in particular the R.A.F.'s Harrier. After watching and photographing the Harriers leaving and arriving at Kings Cross, one be-

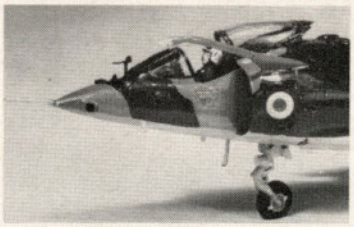


All of the drawing detail scrap views on these pages are to 1/72nd scale, extracted from Aeromodeller Plan STH 2892 which includes 1/24th, 1/48th and 1/72nd scale plans in one pack, price 10s. from Aeromodeller Plans Service, 13/35 Bridge Street, Hemel Hempstead, Herts., U.K.

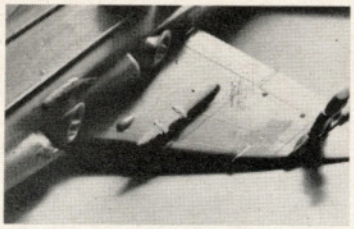




Refuelling probe from odd sprue, etc. Yaw indicator from stretched sprue, as also wiper arm. W/blade from Plastikard. Note slots in rear of canopy.



Pilot's 'Bone Dome' has sliver of Plastikard across visor to look more like latest R.A.F. headgear.



Underside of fuselage with strakes, and also reshaped inner pylons with 'calipers' added to carry fuel tanks. Holes for outer pylons filled.

came extremely fond of the stubby, angular shape of the aircraft. A shape emphasised by the drop tanks and that long angled probe. So, by realising that Airfix hadn't put one in the kit, then that omission must be rectified – my modified Harrier *must* be an air race one!

Fortunately the *Aeromodeller* issue of August 1969 was *the* Harrier issue, complete with drawing to the scale of the Airfix kit. So with oddments of Plastikard (Rikocard, or whatever your stockist sells), sprue, and infinite amounts of custom-stretched sprue, and invaluable *liquid* cement, we are ready! If you've never modded a kit before then the Harrier is ideal, the only 'new' components to make of any complexity are the refuelling probe and the 'new' ferry wingtips – the idea is to make these first, if you make a muck of either then just assemble the standard 'Harrier'!

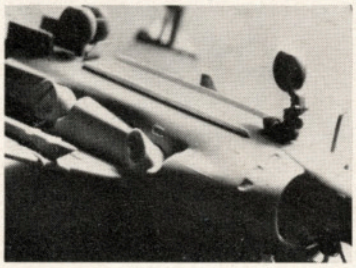
The probe, I made from sprue of suitable diameter, with all the odd 'knobs' filed off. Shape the connector end first with a fine swiss file. (These need not be expensive; some chain stores have them in plastic wallets). Next I bent mine to the correct angle over a scrap balsa former cut to shape over the plan.

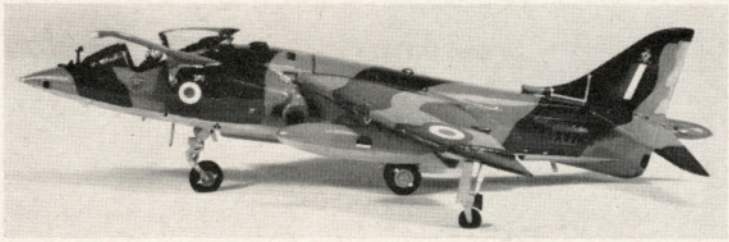
The Plastikard fairing is simple enough, although I used a flat piece of the stand supplied in the kit! Again, shape from the plan.

Wing tips generally as above, airfoil can be filed, scraped or sanded, and finished after cementing into place where you cut the previous ones off with a razor saw.

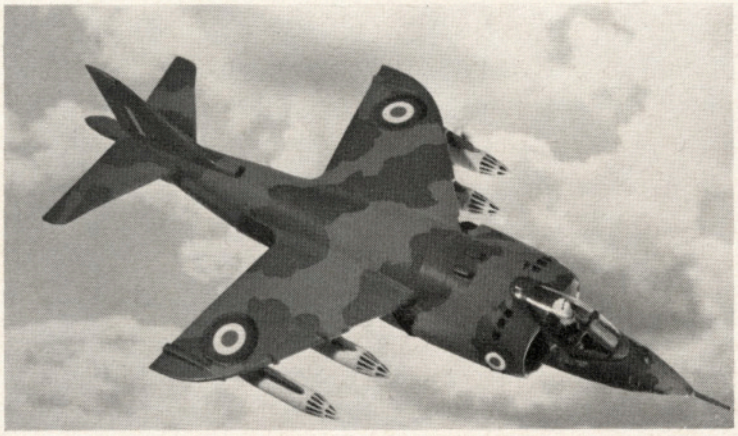
Next mod is the drop tanks which, after cementing together, need an *inch* cut out of the centre parallel portion to give a scale tank

Left, fuselage rear end. Note Plastikard 'rubbing plates' for all moving tail, 4 required, top and bottom of stabilisers, each side of fuselage.





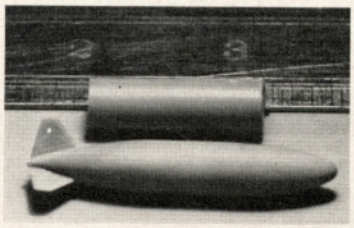
Above, port underside, 'flats' on wheels, strakes and remodelled pylon. Wheel doors could be thinner to advantage. Right, completed model, ready for VTO!

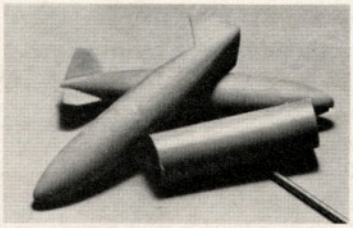


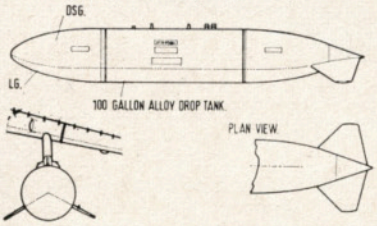
length of 11 feet. The fins are re-shaped slightly, see diag. Last major mod is to the upper wing surfaces, which have the outboard wing fence not far enough outboard, and eight instead of twelve vortex generators on each wing. Smooth away the existing fence, and add new ones made from small rectangles of Plastikard, cemented into razor saw slots in the correct place. The v. generators are made from chips of 10 thou. Plastikard 'guillotined' with a razor blade.

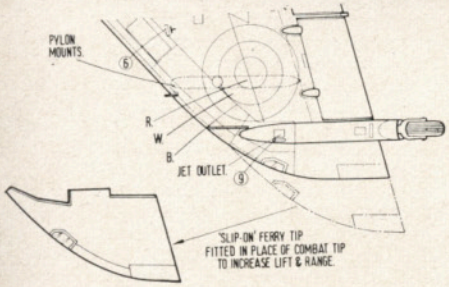
CHECK LIST

Pilot's helmet bar Sliver of 5 thou. Plastikard
Yaw indicator Stretched sprue, Plastikard
Wiper and fairings Odd pieces of sprue and Plastikard
W/screen Faired with body putty
Fuselage canopy release Extended sprue
Small pitot Stretched sprue
Refuelling probe P/card and sprue
Footstep Stretched sprue
Airfoil vents Sprue plus P/card (10 thou)
V.H.F. Aerial P/card (5 thou)
Landing Lamp and dampers Odd pieces of sprue
Strakes 5 thou P/card
Beacons Sprue
Dump Pipes Stretched sprue
Pylon calipers Hot needle and stretched sprue
Outb'd fences 5 thou P/card
Vortex generators Slivers of Plastikard
Ferry tips 60 thou P/card
Vent Flattened sprue
Bulges (underfin) P/card, 5 thou.









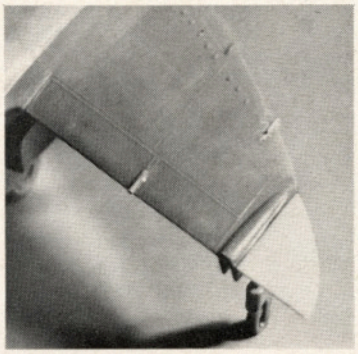
Left, remodelled drop tank showing discarded 6-foot portion from Airfix kit tank. Finished tank should be 11 ft. long.

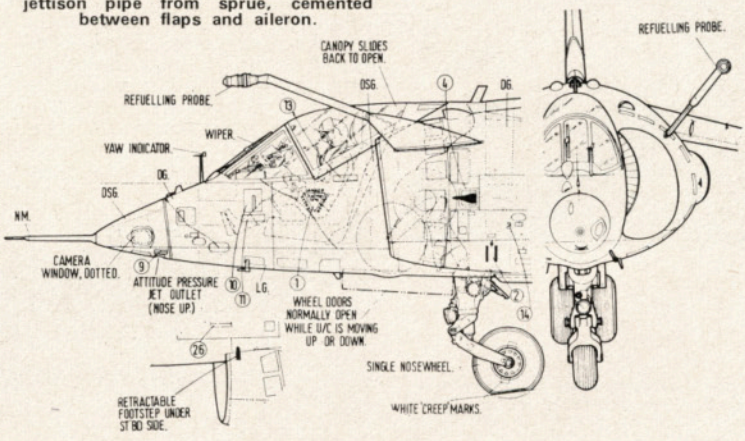
Centre, pair of drop tanks, remade to agree with drawing. Showing modified fin shapes and discarded centre portion.

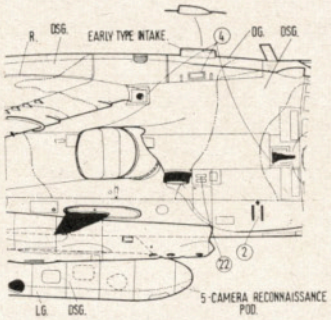
Starboard wing with remodelled 'Ferry' tip from Plastikard (shows white). Outboard fence in new position and fuel jettison pipe from sprue, cemented between flaps and aileron.

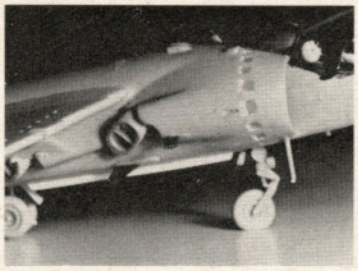
Make more than the eight needed! we are still finding them in the carpet. Place these with a stylus or cocktail stick moistened with liquid cement, then fix with a dab of liquid cement on a fine brush.

My model has most of the easily discernible features added by either looking at the photographs or









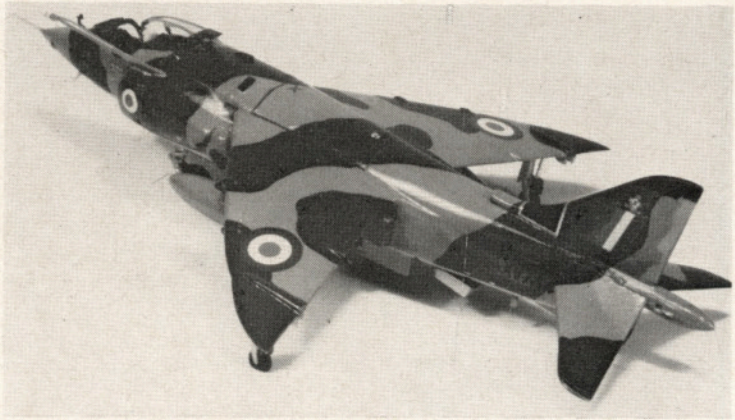
Starboard side centre portion of fuselage, with airfoil-shaped vents (dark coloured) and belly strakes. Note also nosewheel leg upper end has landing lamp added, and widened pivots.

drawing – put on those which you fancy really. Worthy of mention though are probably the nose wheel leg, which needs a lamp, a couple of pillbox shaped dampers added, and the inboard pylons need 'calipers' to steady the drop tank. I made mine by pressing a warmed pin into the pylon bearing face to give two slots with a little molten collar, and calipers made from sprue added to these slots.

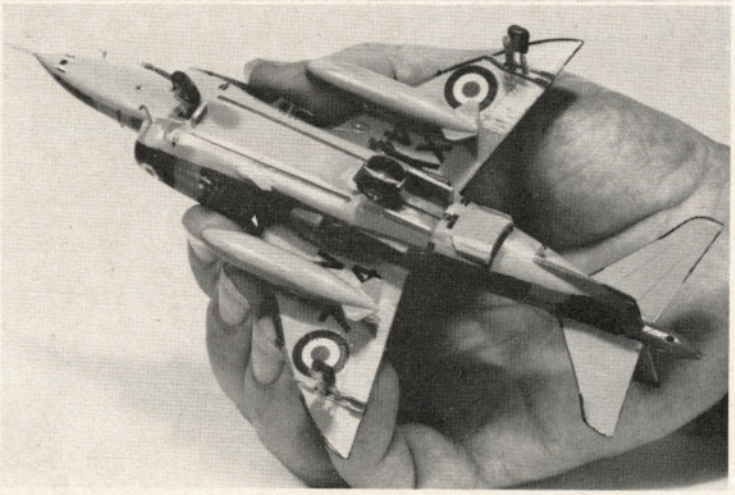
Finally, the model was finished with Humbrol 'camouflage' colours, because of their opacity and quick drying. Note the cover (A/M August 1969) shows how the walkway area red outline is readily visible – put this in with either brush or pen. The Airfix roundels and Fin flashes are suitable, but only use the 'XV7' part of the serial no. I think the 'Rescue' and 'Hot Air' transfers too obtrusive and used little rectangles of coloured paint on my model. Fin badge on XV744 is a red lion rampant on a white ground surrounded by a gold band, though I defy you to see it on mine anyway.

Oh yes – the Harrier *is* High gloss, so I put on a thin coat of Polyurethane gloss – *not* over the matt black aerial patches.

So, a patch of Plastikard around 5½ inches square, scored across to look like extruded panelling, some 00 gauge cobblestone paper and a background of a railway enthusiasts prize gasometer – there you are. Instant R.A.F. Kings Cross!



XV744 as used in the 'Daily Mail' Transatlantic Air Race by Squadron Leader Williams, and featured in colour on the 'Aeromodeller' August 1969 cover. Note air brake partially extended beneath rear fuselage.

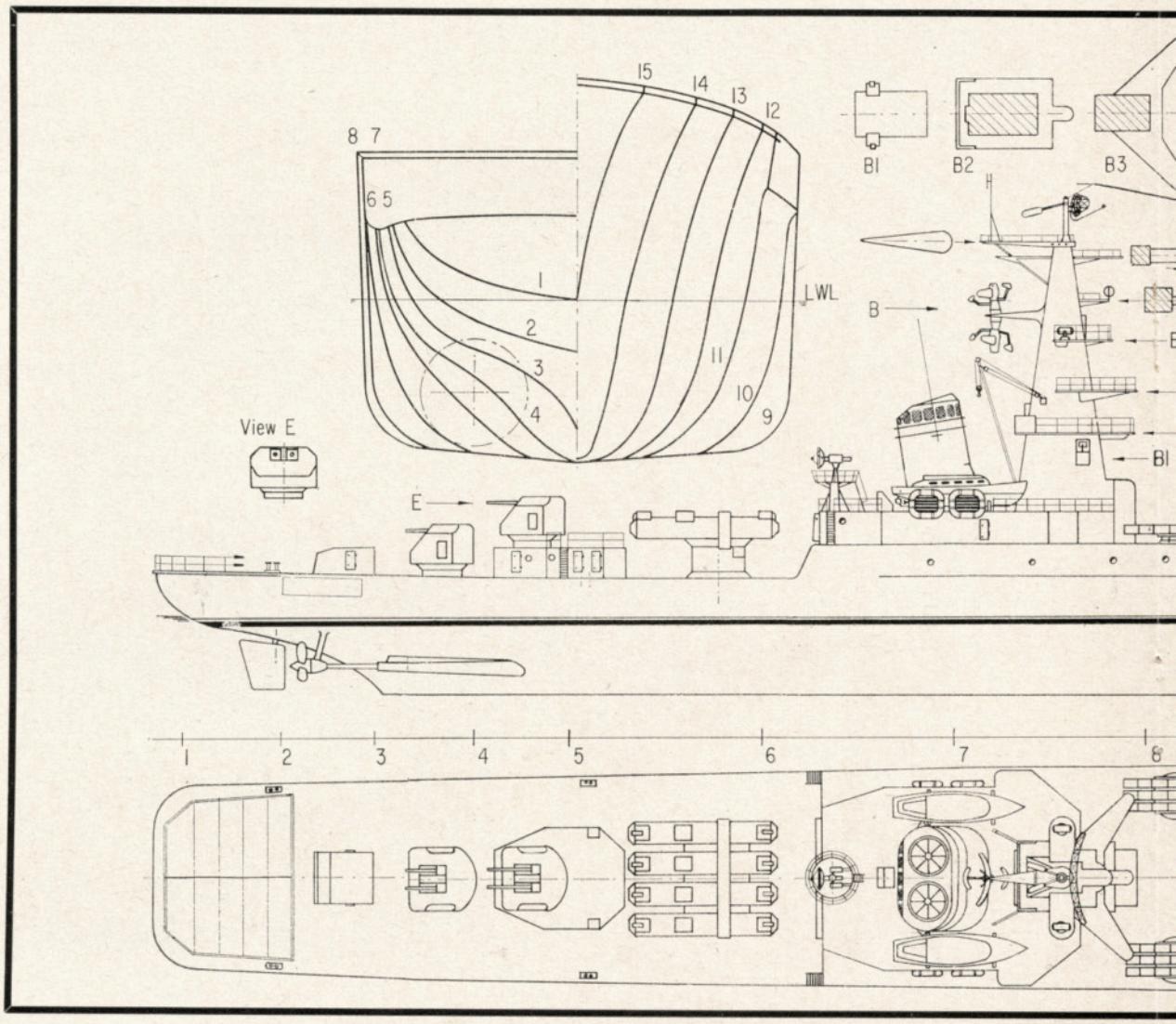


Underside view of the much-modified model. Extra span with Ferry tips adds elegance to compensate the 'Christmas tree' effect of the many fittings.

Russia's
'KYNDA' class
rocket and torpedo equipped Destroyer

We are indebted to Hungarian ship modeller Sandor Roder and 'Modellezes' magazine for the opportunity of publishing this 1/500th scale drawing. It shows the attractive lines of this Soviet 'mystery' class, and the double scale cross sections illustrate at a glance the capacious beam which makes it so suitable for making a working model.

Superstructure and armament offer such a different appearance. to the normal run of the mill Destroyer that we feel sure there will be many modellers who will welcome this opportunity of making something that is both modern and mysterious. For



although the Kynda class has been observed carrying identity numbers 202, 234, 289, 343, 641 and 898, it is believed that so far, only four ships have been launched.

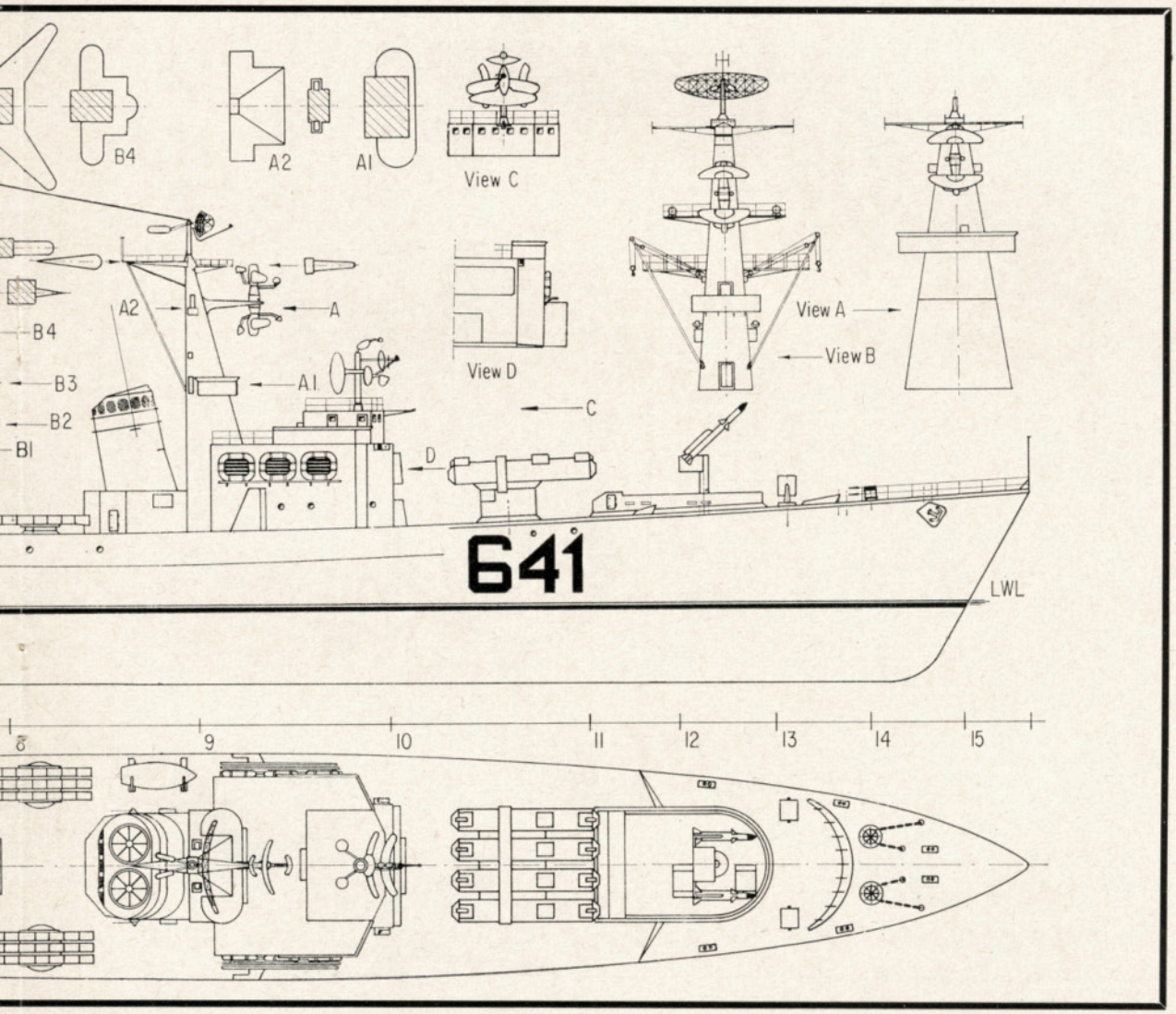
The first was laid down in June 1960 at the Zhdanov shipyard in Leningrad. A second ship was commissioned in 1961. The first was numbered 898, the numerals appearing in white against the Naval grey hull as in the position shown for 641.

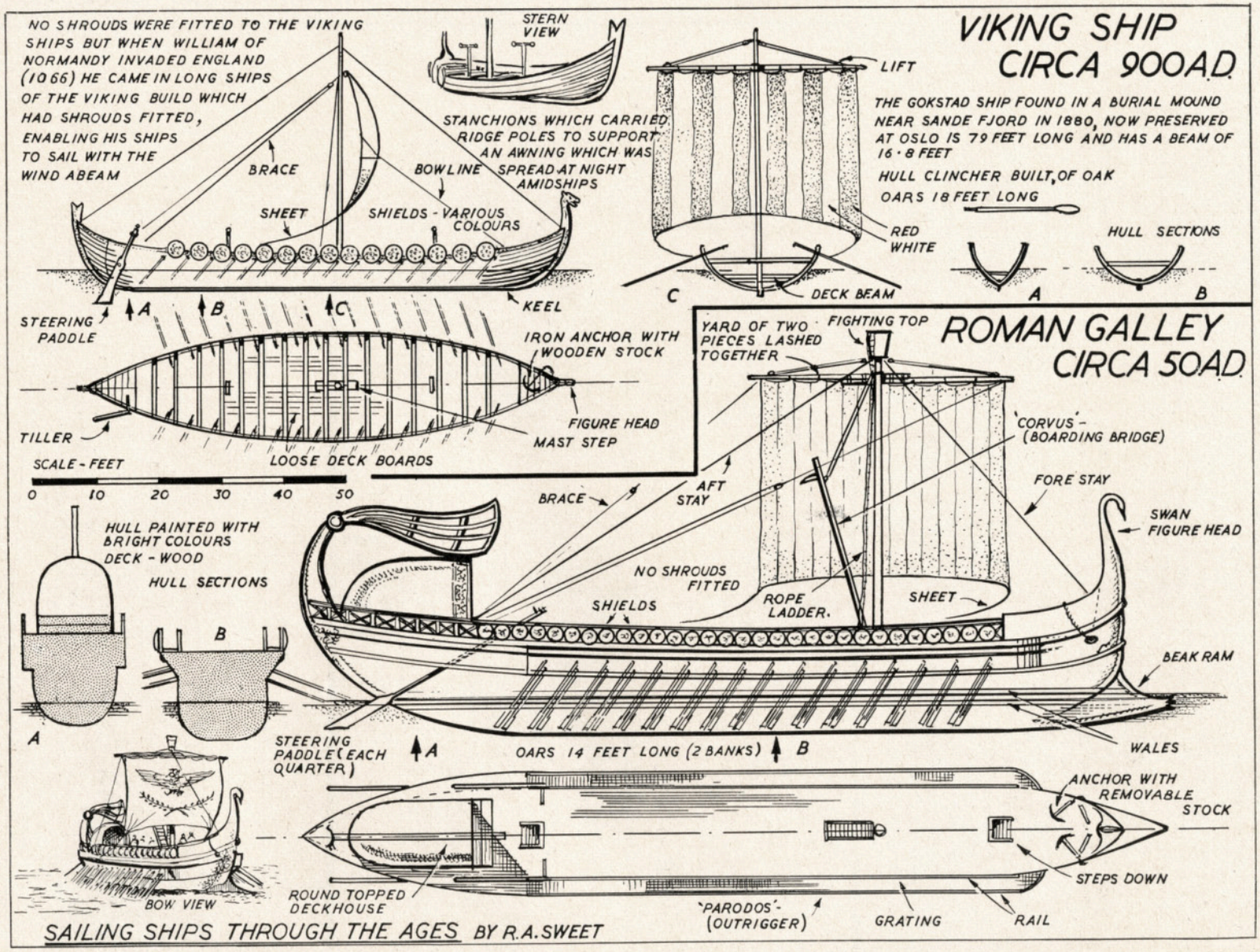
Hull length is 475 ft., and beam 53 ft. with a draught of 19 ft. With full load, and complement of 390 crew, the displacement is 5,200 tons so that by any standards, this is no small ship to be easily dismissed. It is capable of 35 knots.

Distinguished by its pair of tall radar aerial towers and supplementary scanning devices the Kynda has only four conventional guns, and these are in the two aft turrets, being 3.3 inch Anti-Aircraft weapons. On the extreme after-deck there is a grip-surfaced platform for Helicopter operation but there is no evidence of sheltered storage so that this equipment cannot be regarded as permanent. Like the pair of fast launches amidships the Helicopter facility is more likely to be for communications rather than offensive action.

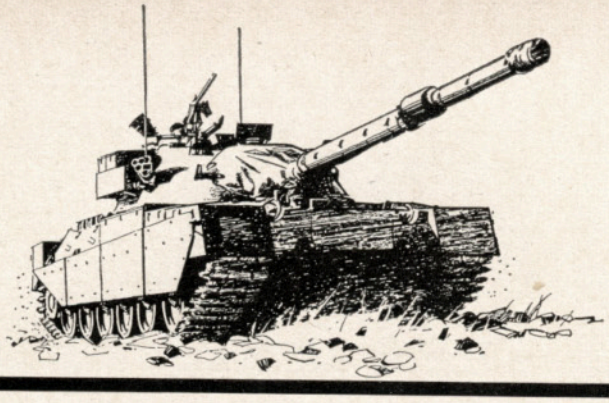
Main offensive armament is in the pair of quadruple surface-to-surface 'Shaddock' missile launchers, mounted fore and aft. In addition, a pair of 'Goa' surface-to-air Anti-Aircraft missile launchers are fitted on the foredeck. 'Janes Fighting Ships' also lists two, 12 Barrel Rockets in the armament but the drawing does not show these, although two, triple 21 inch torpedo launchers are to be seen athwart the midship position.

As ever with Soviet warships, detailed photographs are unhappily rare but the researcher will find reproductions of interesting beam angle views in recent editions of 'Janes Fighting Ships'.





SAILING SHIPS THROUGH THE AGES BY R.A. SWEET



MILITARIA

MILITARY INSIGNIA

for scale models

Part Three of a series by TERENCE WISE dealing with military formation signs used in World War 2 by the British Army – COMMONWEALTH FORCES

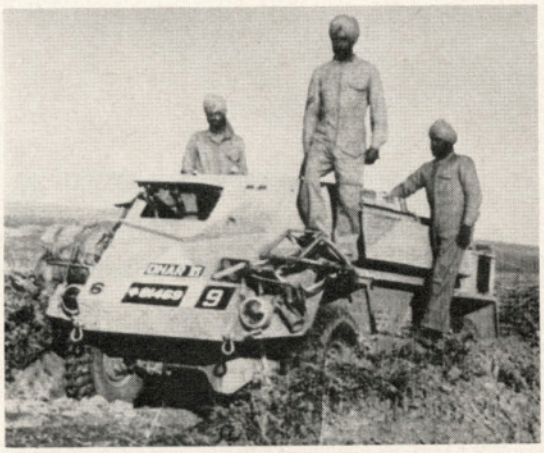
COMMONWEALTH insignia was modelled on that of the British Army, both in badge design and location on vehicles. Formations were always referred to by their country of origin to avoid confusion with British units bearing the same number, and many insignia bore a national emblem to indicate nationality. In their own countries many of these badges became famous, some units – such as the 6th and 9th Australian Divisions – achieving universal acclaim amongst the Allies.

1st AUSTRALIAN ARMY (*White swan and boomerang on black background.*) Commander: Lieutenant General Sir J. D. Lavarack. Raised in Australia in 1942, the Army sailed to New Guinea in August 1944, taking command of all Australian troops in New Guinea, the Solomons, New Britain and Aitape.

2 AUSTRALIAN CORPS (*White parakeet's head and boomerang on black background.*)Raised in 1943 2 Corps was re-named the New Guinea Force but in 1944 was re-designated a Corps, relieving the 14th American Corps in Bougainville.

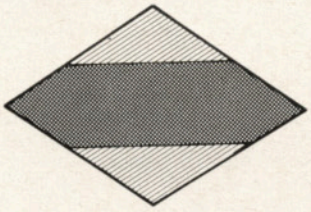
6th AUSTRALIAN DIVISION (*White kangaroo and boomerang on black background.*) Commander: Major General Blamey, later General Ivan Mackay. The Division joined British forces in the Middle East during 1940 and took part in the first great offensive in Cyrenaica, replacing the 4th Indian Division. The Division was immediately despatched to Greece where they made a stand at Thermopylae that enabled large forces to be evacuated to Crete. The 6th was withdrawn from Crete and after another spell in Egypt, was recalled to Australia in 1942 prior to being sent to New Guinea where it saw action at Buna, Salamaua, the Danmap River and Wewak.

A mortar team of the 31st Indian Armoured Division which served with the 14th Army in Burma. The charging elephant is black on a green background, facing the opposite way to that of the British 4 Corps (see October issue) which was also with the 14th Army. (IWM Photo E19217.)

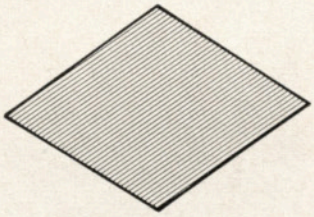


An armoured car of the Guides Cavalry Regiment in the Middle East, bearing the crossed pink and blue bars of the 10th Indian Division and the brigade number. To the left is the crew's name for their vehicle, its number and on the extreme left the weight – 6 tons. This Division served with the 8th Army from 1942. (IWM Photo IND 760.)

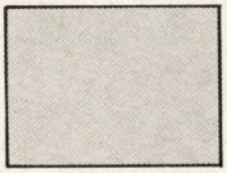
9th AUSTRALIAN DIVISION (*White platypus and boomerang on black background.*) The 9th served with the 8th Army in the Middle East and achieved fame for its defence of Tobruk and its important role at El Alamein. It was withdrawn to Australia early in 1943 and later moved to New Guinea, where it fought the Japanese at Finschafen, Lae and Madang. The Division later saw some action in Borneo.



1st CANADIAN ARMY (*Horizontal scarlet diamond with centre band of dark blue.*) Raised in England in early 1942, by the end of that year, 1st Army contained 1 and 2 Canadian Corps (1st, 2nd and 3rd Canadian Divisions) and 4th and 5th Canadian Armoured Divisions. In 1943, 1st Division and 5th Armoured Division joined 8th Army for the invasion of Sicily and Italy; the remainder of the Army joined 21st Army Group for the Normandy Landings. After the break-out, 1st Army swept up the Channel coast, through France and Belgium as far as the Scheldt estuary. After the Rhine crossing the Army moved into occupied Holland and fought westwards in the final operations which liberated Holland.



1 CANADIAN CORPS (*Horizontal scarlet diamond. 2 Canadian Corps wore the same badge design in dark blue.*) The Corps was formed to command the 1st and 2nd Canadian Divisions in England. It moved to Italy in September 1943 in command of 1st Infantry Division and 5th Armoured Division, and took part in the advance through Italy, Cassino, and the smashing of the Adolf Hitler Line. It was withdrawn in March 1945 to join the 1st Canadian Army in Holland.

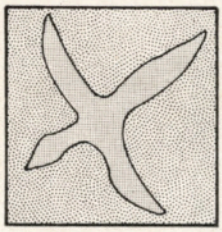


1st CANADIAN DIVISION (*Red rectangle. All Canadian Divisions used this badge design with the following colour code: 1st red; 2nd royal blue; 3rd French grey; 4th Armoured Division dark green; 5th Armoured Division purple.*) Commander: Major General A. G. L. McNaughton. This Division was the first Canadian unit to go overseas, reaching Britain in December 1939. It was warned for service in Norway and with the B.E.F., but both moves were cancelled, although 1st Infantry Brigade landed in France a few days before the evacuation. The Division then joined 7 Corps in South East England but eventually became part of the 1 Canadian Corps. Some units from the Division took part in the Spitzbergen expedition in 1941 and the Dieppe raid in 1942. In 1943 the Division landed in Sicily, and in Italy under the command of 8th Army distinguished itself at Ortona and the piercing of the Gothic Line. In March 1945 it was withdrawn to serve with the 1st Canadian Army in North West Europe.

33 INDIAN CORPS (*Crossed sword and trident superimposed on geometrical wings in white on black background.*) This Corps was part of 14th Army, and took part in the campaigns in Assam and Burma.

34 INDIAN CORPS (*Leaping black panther on yellow background within a black circle.*) Raised for the invasion of Malaya in 1945, 34 Corps was the fourth Corps of the immense 14th Army.

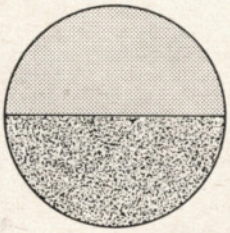
3rd INDIAN DIVISION (*Golden Burmese dragon on blue background.*) The Chindits who became famous for their daring exploits far behind the Japanese lines in Burma under the command of Major General Orde C. Wingate. As part of 14th Army they were subsequently engaged in the Chindwin area, attacking the Japanese lines of communication.



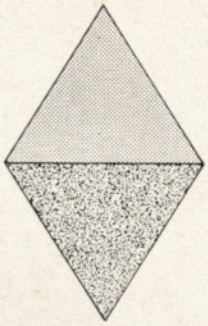
4th INDIAN DIVISION (*A stylised red eagle on khaki background.*) Commander: Major General Beresford-Peirse. The first formation to leave India, the 4th arrived in Egypt in late 1939 and at Sidi Barrani shared with the 'Desert Rats' the honours of victory over the Italians. The Division was then sent to Eritrea, where it helped to defeat the Italians in the long battle of Keren. The Division returned to Egypt to meet the threat of the Afrika Korps. One brigade (the 5th) was sent to Syria where it took part in the operations against the Vichy French Forces. Early in 1942 the Division was withdrawn, one brigade going to Cyprus, one to Palestine, and the third to the Canal Zone. It returned once more to the desert as part of the 8th Army for El Alamein and for the advance through Libya and on into Tunisia. After the German defeat at Cap Bon, it joined the Allied forces in Italy.

7th INDIAN DIVISION (*Yellow arrow on black background.*) Commander: Major General Messervy. The 7th was heavily engaged in the Arakan, being cut off by the loss of the Ngakyedauk Pass and holding out for sixteen days in the famous 'Box' at Sinzweya until relieved by the 26th Indian Division. Later the Division formed part of 15 Corps of the 14th Army for the advance on Burma.

2nd NEW ZEALAND DIVISION (*The national emblem of a fern leaf in white on a black background.*) Commander: Lieutenant General Sir B. C. Freyberg V.C. The Division arrived in England after Dunkirk and became part of 7 Corps. In 1941 it saw action in the Western Desert, Greece and Crete, returning to the desert for the battle at Sidi Rezegh. It was part of 8th Army at El Alamein and the subsequent drive through Cyrenaica into Tunisia. The Division later landed in Italy, capturing Padua and Mestre and sweeping on to Trieste, where it linked up with Tito's Yugoslavian forces advancing from the East. It was disbanded early in 1946.

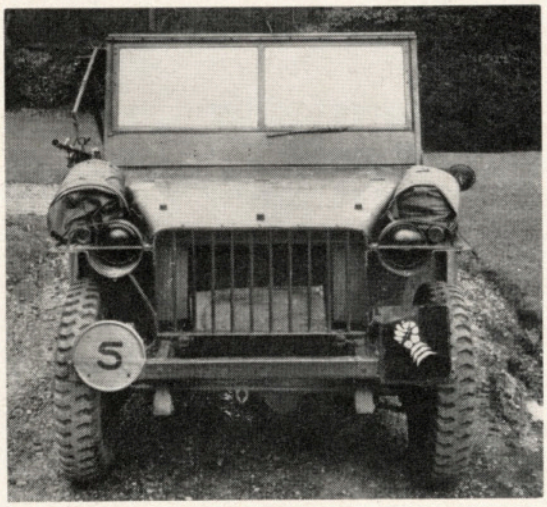


1st SOUTH AFRICAN DIVISION (*A halved circle, top yellow, bottom green.*) Formed in Kenya in 1940, the Division consisted of the 2nd and 5th South African Brigades. It was part of the force that defeated the Italians in Somaliland, pursued them into Ethiopia and obtained complete victory after Keren. The Division next joined 30 Corps of the 8th Army and took part in General Auchinleck's offensive in 1941, the battle of El Alamein and the advance through Cyrenaica and Tripolitania.



2nd SOUTH AFRICAN DIVISION (*A divided diamond, top yellow, bottom green.*) The Division served in the Western Desert with 8th Army. Two brigades formed the major part of Tobruk's garrison and were lost when Rommel attacked and captured the port in June 1942.

(*Continued on page 199*)



A 'Jeep' bearing the 6th Armoured Division emblem, but no brigade number. In its place is a metal disc painted yellow with a black figure five representing the 5 cwt. weight of the 'Jeep'. This was and still is the usual method of indicating vehicle weights. (IWM photo MH 11494.)

Author's French Cuirassier bares his teeth in offensive mood.

MILITARY MINIATURE MODIFICATIONS

Part Three

Written and Illustrated by BILL HEARNE

Heads and Facial Features

THE second part of this series was closed last month by saying that we would look at heads *and* clothing. However I find that in drafting this part, such are the involvements of the former that embarking upon the latter will not be possible. I therefore beg your pardon and trust that you'll find the ensuing information concerned with the treatment of heads alone sufficient compensation for my error.

Believe it or not but the question of heads is a relatively simple one which can be basically tackled by cleaning off the seam line of the mould separation and attaching it to the shoulders of the figure. (*Fig.* 2.) However several changes can be effected which can greatly enhance the finished product even in the case of an 'as is' assemble and paint job. Certain limitations in moulding confront most plastics manufacturers and the Historex people are no exception to this despite the degree of finesse that they accomplish in their product. A sweetly moulded shako say, can still resemble a bucket when placed on the head and, accordingly, look somewhat out of scale. Some headgear like the busby or metal helmet can appear right but others do need some attention to make them 'fit'. To shave down the thickness is not practical because it can distort the shape or destroy delicate detail. Thus I find it expedient to overcome this problem by building up the *hair* on the head. Invariably, when a hat is placed on the head, the hair beneath the rim is pressed flat and creates a slight billow or step around the exposed hairline. I therefore locate the headpiece and when I've cemented it into position, apply a percentage of plastic putty over the upper part of the uncovered hair. When this is thoroughly dry, I work over it with a heated darning needle, short, irregular lines for the lay of the hair from the temples, over the ears to the nape of the neck, blending putty into the regular moulding. If you practise a little you'll find that you can introduce a curled impression which can look most effective just coming up and over the edge of the hat (*Fig.* 1). Seemingly and conveniently, the military in the early days did not insist on a short back and sides and hair was worn quite thick and so lends itself to modelling. When this is done successfully, you should find the hat sitting 'on' the head and not over it. Regarding this 'heated needle' business, you can use a darning needle in a pin vice and a candle flame or, better still, watch

for Lynn Sangsters – the Dover Historex agent – introduction of a most useful item called a 'Pyrogravure'. This is a highly versatile piece of equipment not unlike an electric soldering iron with interchangeable heads for all manner of operations on plastic. However, in getting back to the primitive, you'll find that in using the needle and candle method, soot from the flame causes a blackening of the marks you scribe; so it's a good idea to have a piece of rag to hand upon which you should wipe the needle before applying it to the plastic. Do it quickly though because the needle soon cools off. Another point which you should keep in mind is that the heat of the needle can be critical. Too cool and you'll make no impression. Too hot and you could cut far too deeply into the surface. So I strongly suggest a little practice before going at your model.

No matter what use I'm putting the Historex heads to, the first thing I always do is get rid of the moulded collars and, when the neck is fastened to the shoulders, fit another collar cut from .05 in. plastic sheet. This has many advantages in that it firstly, looks immensely better, bringing an added dimension of authenticity and secondly, permits considerable movement of the head if you wish it. Cut a strip of plastic sheet the depth of the required collar, wrap and pinch it around a piece of dowel approximately the circumference of the neck and hold it briefly over steam. Cut it as needed and cement it to the shoulders. Another criticism I have of plastic heads is the ears which, in most cases, are almost non-existent, a condition probably brought about by the fact that the mould separation line passes vertically through them either side of the head. In shaving off this line one seems to lose what little ear there is. My means of handling this situation is to ascertain the depth of the ear and then from sprue of the accommodating size, shave one side flat approximately half way by pulling the cutting edge of a craft knife along it. Now, placing the flattened side down on your cutting surface – and I'd recommend a magnifying glass for this step – slice a wedge-shaped sliver from the end, wider on the curved side. Put a spot of tube cement to the ear position on the head and, with the point of your knife, place the little piece, wide side to the rear, where it should go. Having done this, saturate a brush with *fluid* cement, and 'wash' the ear into the head. By stroking the liquid around the ear you'll find that the edges will blend in, especially at the front, while the rear stands proud. Check your own ears and you'll see what I mean (see also *Fig.* 3).

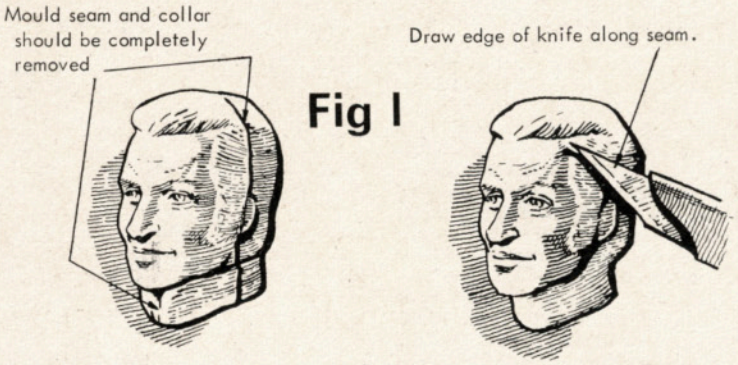


Fig I

TYPICAL TYPE OF HEAD

CUT AND SAND COLLAR AWAY.

This, incidentally, should be done *before* commencing with the hair operation; the reasons, I think, being obvious. If you choose, of course, you could overlook this ear routine in the case of, say, a long haired, Napoleonic figure but in

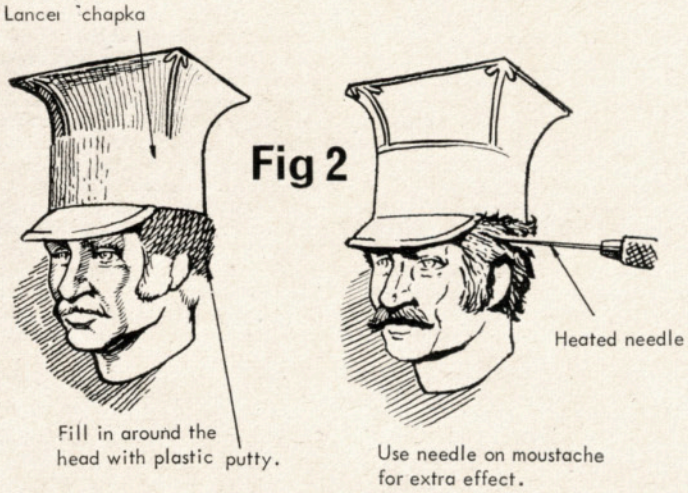


Fig 2

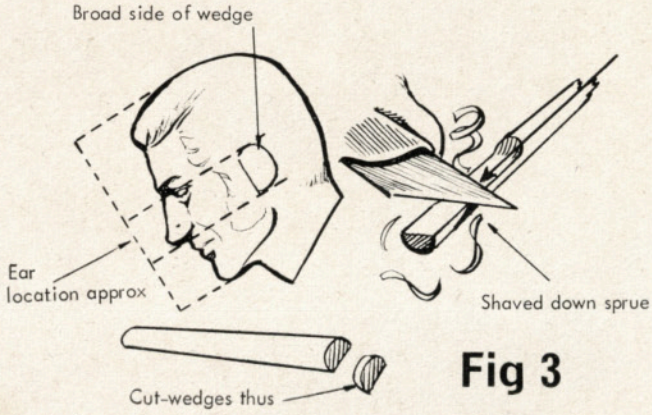
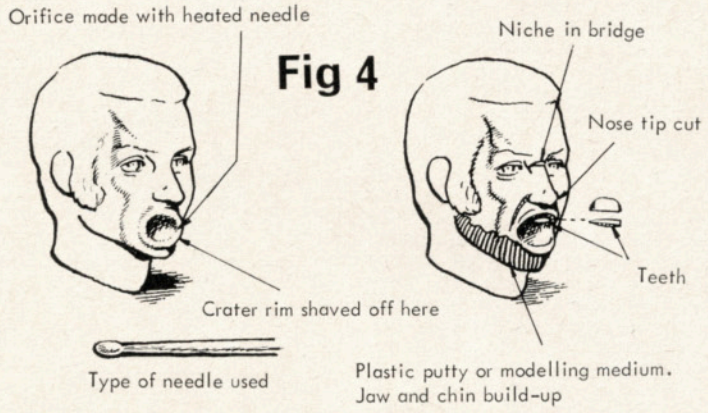


Fig 3

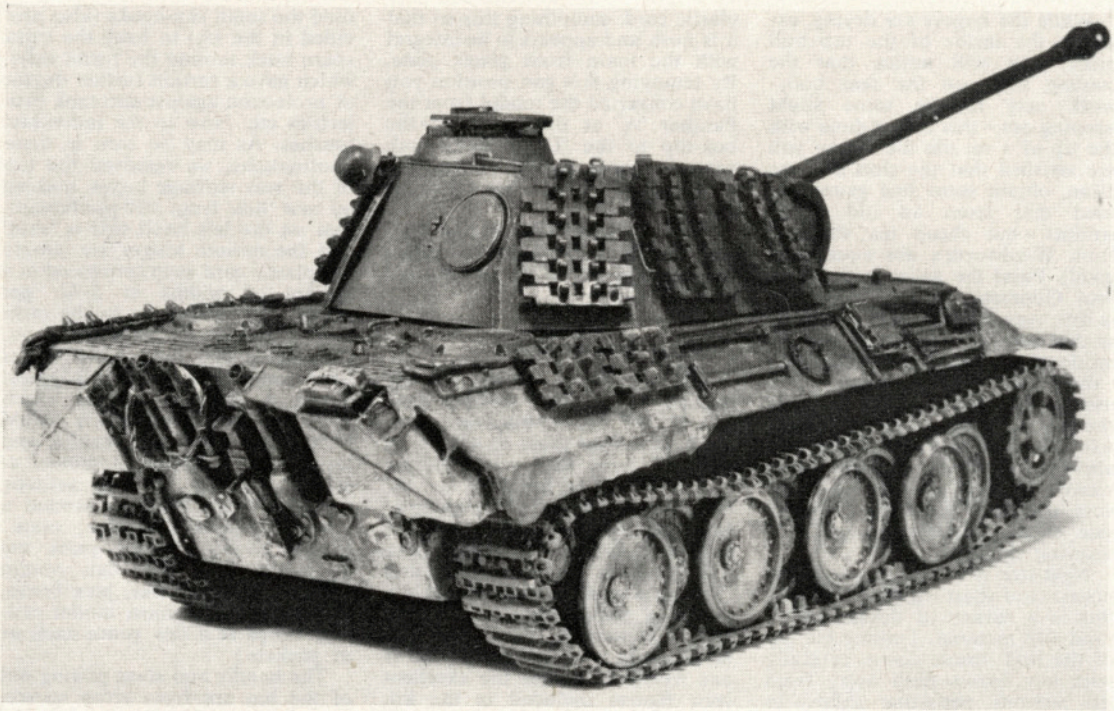
the case of one with short hair then it is, to my mind, obligatory because I see it as paying off tremendously in the appearance of the finished work.

Accompanying this article is a couple of photographs of heads which I 'doctored' for a set depicting a French Cuirassier bearing down on a Black Watch Highlander. You'll see that the mouths of both figures are open to provide expression suited to the situation. The French soldier grits his teeth in determination while the Highlander breathlessly parts his lips in preparation for the attack. Where the 'kiltie' is concerned you'll perhaps also notice that his hair has been modified by the method previously mentioned. To bring about an open or shouting mouth, a hot needle is again employed, but for it a round-headed one is used which is to be found in a selected package of darning needles. To begin, mark, with the point of a regular needle, the mouth of the model in the centre of the lower lip. Heat the needle in the candle flame, apply it to the mark and gently press-in to a depth of approximately 3/32 in. In the event that the plastic 'grabs on' to the needle, wait a moment for it to cool and then twist the needle back and forth and ease it out. Around the resultant hole there will be a ridge (*Fig.* 4) so shave down or file off where the corners of the mouth are to the level of the face. This will leave a protruding upper and lower lip which might require moderate sanding to bring them down a little. To what degree will depend largely upon your eye until, at least, you think they're right. This operation will leave the face almost chinless, requiring that you build it up with plastic putty or Slater's 'modelling medium' (a handy substance available only, as far as I can ascertain, from the manufacturer direct) to where you have a nicely dropped jawline. When the build-up is complete and thoroughly dry, sand it delicately into the rest of the face. Complete the job by taking a little off the tip of the nose, putting a notch across the bridge of the nose and, again delicately, scoring lines from the sides of the nostrils down to the corners of the mouth as the illustration indicates and you will have changed a rather placid face to a more aggressive one. For additional effect you can slip a sliver of sprue into the upper part of the mouth for teeth and, with the exception of painting for further expression, the conversion will be complete.

Well, there it is again. Time and space has run out for this occasion, but I hope that what's been written will hold you until our next time around.



Black Watch Highlander on the defence. Note hair and mouth detail.



ARMOUR MODELLING

How to obtain realism and authentic colour detail – by Robert C. Jones

TAMIYA PANTHER

SINCE reviewing the **TAMIYA** 1/35 scale kit of the PANTHER V, in our No. 1 issue of *Scale Models,* we have received numerous requests from readers asking us to elaborate on the whole subject of armour modelling and also give some hints and tips as to how one can complete one's model so that it has some individuality but remains within the bounds of scale accuracy.

So, we decided to take the Tamiya Panther V kit as a basis for this, the first in what we hope will become a regular series where we study a particular kit in depth.

As with any form of scale modelling, one must have recourse to reliable reference sources and a glance at the specialist bookshops advertising in this magazine will give you some idea of the mass of material available. However, as most of us have to work to some sort of budget, we will, where possible, try to utilise the less expensive references, although of course we would make the point that the more books that you can afford, then the wider your scope of reference giving you a greater chance for this apparently elusive individuality. But initially you will find such items as Profile Armour Publications and Bellona Series drawings of great help and the Aero Publishers books at 23/6d. or the Fiest Publications at 35/-d. are all well worth adding to one's library. Also we have several inexpensive but well illustrated booklets produced by the Royal Armoured Corps Tank Museum, Bovington Camp, Dorset, who can also supply photographs of most military vehicles and armour, the latter costing 2/6d. per print, and one should state what type of vehicle one is interested in, what angle(s) you require the photographs to show and so on; they can also provide scale drawings of much of the combatants armour and we suggest that you write for their price list, price 6d. plus 5d. stamp.

Having in the case of the Tamiya Panther V kit obtained Bellona drawing series 16 which is of the Ausf. G version of this tank but which has many features common to the kit versions, together with the first book, *PANZERKAMPFWAGEN V* and Aero Publishers *GERMAN PANZERS From Mk. I to Mk. V,* we are about ready to commence work on the model.

Before even removing any parts from their sprues it is essential to decide what finish or colour your model is going to be, or – if you start assembly – you will find it well nigh impossible to paint behind the bogeys or get at the insides of the main hull, and you can bet some part of the model which you didn't paint will be visible from some angle or another!!

We painted our Panther V overall Humbrol Panzer Grey – which represents the darker shade of grey which was used in the latter years of the war. Having done this, we then carefully painted the simulated rubber tread on each bogey wheel with Humbrol H.G. 4 Dunkelgrau, which is sufficiently dark as to look like the wartime German rubber but also contrasts with the basic camouflage finish. Kit instructions often state that bogeys etc. should be painted black, but certainly all that we have seen appear a dark grey colour.

While the bogeys are drying, examine the inside of the top hull piece, you will notice that the cooling vents on the rear bodywork may require some slight opening out – this is best done with the tip of a rat tile file. When you are satisfied that the slots etc. are clean, obtain some fine gauze (we used that from an old coffee strainer – but cheap tea strainers from Woolworth's are equally as good). Paint the gauze with Humbrol Gunmetal colour; when this is dry, very carefully cut the gauze so that individual pieces fit over the inside of the exposed cooling vents – these can be cemented in place using scrap plastic card to hold them in position . . . this little task will then give you a more realistic appearance to the intakes when viewed from above and also prevent the light from the opposite side of the hull/bottom join line showing through.

Next step is to obtain some clear plastic card sheet – Bellona produce this in a variety of thickness – we used .010 material. Turning the top of the hull upside down, carefully trim any excess flash away from the various periscope sights – to the uninitiated these can be mistaken for lifting hooks – having done this, paint the insides of these protuberances matt black; when dry, cut clear plastic card in strips so that one can place one strip against each inside face of these periscope units. Cement these in place so that from the outside of the tank they look like the armoured glass which was fitted as standard. Don't forget to deal with those in the turret as well as those in the main hull.

At this stage it is possible to change your model slightly from the kit type by cutting away the fairing for the front hull mounted m/g and replacing this with flat plastic card, smoothing this so that it is flush and appears to be integral with the main front glacis plate. By removing this gun position you have converted the model from the Panther 'A' as illustrated on the box-top to the 'D' version – both variants being shown on the instruction sheet provided with the kit.

Aero Publisher's book *The German Panzers* has some excellent photographs of the 'D' leaving the Porsche factory.

Follow Instructions

The next step is to assemble the bogeys to the hull bottom – and one MUST follow the instruction sheet drawings most carefully or you will come very much unstuck . . . this advice applying to *any* tank models you may be making at any time. While waiting for the bogeys to dry, decide whether you wish to have the various hatches open or closed up; this is largely a matter of personal preference – our model represents the tank shut down ready to enter combat, but if one wishes to utilise the excellent crew figures included in the kit, then have the hatches open with the exposed areas painted gloss white (see footnote). Those wishing to enhance the kit further, should refer to the back page of Bellona Series 16 drawings which gives excellent drawings of the turret machine gun mounting . . . the m/g was usually carried inside the turret when going into battle (but when in infantry support roles, the Commander usually had his turret open with the machine gun cocked ready to fire on snipers.

One can now carry on with the general assembly of the hull and add the numerous external fittings, those in the kit being common to all Panther V's. On our model we used the small sky-hooks (also provided in the kit) to hang the extra spare track around the turret sides, which gave a certain further degree of protection against anti-tank projectiles etc. Now to the individual touches. As may be seen in these photographs, we removed the top of the rear stowage boxes, making up new 'lids' from .010 plastic card, that on the left hand side is 'shut' and the minute hinges are simply flat plastic card strip (produced in a variety of widths at 2/9d. per packet and invaluable to the military modeller from Jones Bros., Chiswick). The right hand bin is open and stuffed inside is a typical workbox – wooden – around which is coiled thin wire which would have been used for repairs and laying out telephone communications, etc. – this wire is actually thin fuse wire wrapped around a model railway 'wooden crate'. (These model railway parts are very useful as one can obtain shovels, spades, picks, plus boxes, crates, etc. from most model railway shops at a few pence each or in packets.)

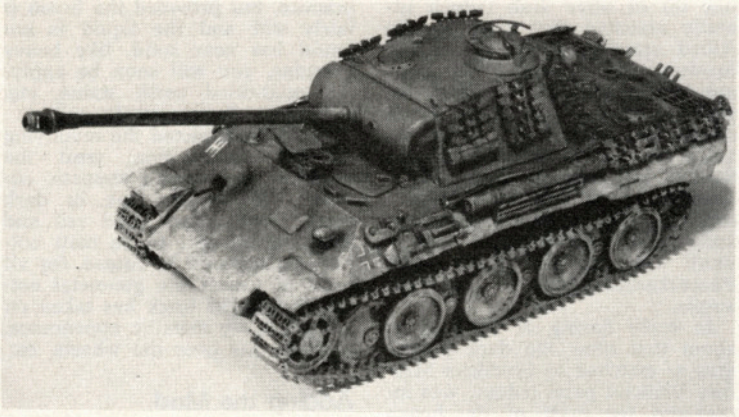
The handle and stave poking out of the bin are from scrap spruce, cut to shape and painted, while the heavier wire wrapped and hung over the exhaust pipes is also fuse wire. The heavy duty jack between the exhaust pipes is provided in the kit, and with careful painting, looks most realistic; use black, touched with silver, gunmetal and bronze on exposed metal or steel areas.

The exhausts on these tanks were somewhat wide, certainly big enough to drop a small explosive charge down, so a thin but strong wire guard was positioned across the top, inside of each pipe – these on the model are from slivers of plasticard rolled to circular section between two pieces of flour-paper.

The various hull fittings as provided in the kit are next painted and attached, and here again, one can use some ingenuity in adding extra detail, for example, it was noticed on photographs of full-size Panthers that coiled wire was also carried on the starboard side of the hull – stretched between two 'pins', so we drilled through the hull side, cemented two right-angled pins in place, then when dry, wrapped the ever popular fuse wire around this, as can be seen in the photographs.

This view shows to advantage the mud plastered sides of the vehicle. Note the extra coil of wire below the centre of turret – see text.

Left side stowage is as instructions but with extra gun barrel cleaning rods fitted beneath the circular container provided with the kit. Note also the build up of dried mud along lower fenders etc.



The tube-like object on the left-hand side of the hull contained gun barrel cleaning equipment and-pull-throughs; for some reason, many Panthers carried extra cleaning rods fitted between the main vertical supports for this tubular structure. These were made from the lengths of plastic sprue (also available from Jones Bros., Chiswick, 2s. 9d. per packet containing a variety of sizes) and cemented in place, the small pins that held them being hidden behind the rods on the full-sized vehicle.

The headlight is painted to match the rest of the hull, but with a fine brush paint inside the horizontal slit matt black, when this is dry, carefully paint over this with one single thin coat of gloss varnish – to represent the *armoured* headlight glass.

Save those 'spares'

The 'extra' track used on our model came from our spares box – which any tyro should start at once – never throw *anything* away, it is surprising what odd bits and pieces that this box can bring to light after one has been modelling for only a short while.

The steel helmet hanging from the turret track is one of the three spares provided in the Tamiya kit of three figures of German Infantrymen – however, one could just as easily remove the head(s) from the 1/32 scale Airfix German Infantry figures and scoop out the 'head' from inside the helmet, make a thin chin strap – painted black semi-gloss, and cement into place, hanging the helmet by this strap with a touch of cement to keep it in place.

We have, of course, only lightly touched here on external stowage, because, as we have explained, the vehicle as depicted here is about to enter combat. However, when on the move between front line positions, etc., the rear decking was often laden down with rolled up blankets, sleeping bags and similar packs and personal gear and, of course, one also found infantry scrounging a ride; but remember, particularly if you are making a diorama, that under combat conditions such external stores were minimal, and unless advancing or bringing up reinforcements, infantrymen realised that tanks attracted anti-tank gunfire – among other things! In the later days of war, when the allies enjoyed hard-won air superiority, it was common to have one man or more perched outside the hull on the look-out for the dreaded 'Jabo' (fighter-bombers) . . . it is on points like this that the careful study of photographs can be most rewarding.

Our model, for example, is unusual in that only *two* turret identification numbers appear to have been carried, '65' – normally, three are more common, for example 145 identifies: 1st Company (1); 4 indicates the Platoon (4th); and the final numeral is the tank identification or call-number (5). A Tank Commander's vehicle is recognised by the first figure 101, 201, 301, and those carrying second i/c are numbered 201, 202, 303. These numbers appeared in a solid colour red or black with lighter outline when painted against dark surfaces such as white or yellow. The tank number was often repeated on the rear of the turret for identification to following vehicles or infantry, but this was often half the size of that on the sides of the turret.

Other identifying markings included divisional, regimental and unit motif, often carried on the hull front or sometimes the wings of the vehicle.

The German cross appeared in several alternative positions; on the Panther as modelled, they were carried on the sides of the forward hull just above and aft of the first bogey wheel, on left and right-hand side of the hull. It was also sometimes painted on any flat (or near vertical) area of the rear of the hull, but in all but very few cases, was very small in size.

The early days of W.W.II saw advancing German columns with a large red flag upon which appeared a swastika against a white ground, but this was short-lived confidence, particularly when the allied air offensive increased in 1943/5.

Personal markings on German armour was unusual, but not unknown; this often took the form of a girl's name usually painted in small – 12 in. at most – high script on the turret or hull sides.

To return to our model, this bears the 'H' with sword motif of the crack 9th S.S. *Panzer Division Hohenstaufen*, as supplied with the kit, and is placed on the right-hand side of the front of the front glacis plate. Our turret numbers came from an old Hisairdec sheet, however, Modeltoys of Portsmouth have stocks of suitable numerals in a variety of sizes and styles. The Tamiya kit decals include numeral groupings: 223 and 421 red outlined in white, and 309 in black with white outline, plus four crosses and ten white gun-barrel kill rings, together with Divisional markings for: 3rd, 1st and 2nd Panzer S.S. together with other insignia.

Colouring

A brief summary of armour vehicle camouflage 1941 onwards, would read that in 1941, tanks were either yellow-sand and brown, or grey and green for North Africa, and blue-grey for other theatres. In 1942, the African scheme was changed to brown-sand overall, while a washable white distemper-like paint was introduced for the winter of that year on the Eastern Front. December 18th, 1945 saw the old colours ordered to be replaced by dark-sand-yellow for ALL fronts, this being a basic factory overall finish. When the new vehicles arrived at their holding units, etc., they were delivered complete with

one tin of olive drab (which literally matched that used by the Allied armour), a tin of reddish brown – what we would call chestnut, and dark yellow – which we would refer to as stone. Each colour was packed in a 2 kg. tin and it was left to the discretion of the tank commanders to paint their vehicles 'in the field' to suit local conditions. Many photographs show such paint being applied with a small airbrush – see Fiest's book Panzerkampfwagen V' for example.

In early Spring of 1945 or at about that time, the dark Panzer grey as matched by Humbrol Military Vehicles paint colour, was introduced for most of the heavy armour, and it is in this final finish that our model was painted.

Lastly, we must discuss wear and tear as it affected the finish on these vehicles. Our model was brush-painted (an airbrush finish, unless very well done, provides too good a finish on these larger scale models) as explained in the foregoing text, remembering again to contrast the rubber-covered rims of the bogeys.

Before the track was placed over the suspension/bogeys, the whole model was lightly brushed with an almost dry brush which had been dipped into gunmetal and Panzer grey mixture, then wiped almost dry on a cloth and stipled on to old newspaper. When the stiple appears almost nothing more than a smudge, you will have obtained the correct load on the brush. This is then very firmly applied over all sharp edges and angular structures to pick out worn metal, etc., any excess of this can be covered with a similarly near-dry application of the basic colour. When this was completed to our satisfaction, we then cut a cheap ¼ in. wide brush from F. W. Woolworths to ¼ in. length. Similarly, we opened a tin of Humbrol matt Dark Earth and U.S.A.F. Vietnam Tan colour. Pour away the thin liquid, leaving gooey mess at the bottom of the tin. With the shortened brush, apply this concoction over the wheels, tyres, lower hull, etc., until you obtain the right amount-of dried-mud-and-dust effect; this will take a little practice, but provided the brush is fairly stiff and the liquid is *not* liquid but near solid, like heavy porridge, you will soon be applying mud-dried earth stains, etc. with most effective results.

Having completed the muddying to your satisfaction, treat the tracks to the same systematic coverage. BUT also mix in dark earth, silver, black, and red and black mixed. All to be matt colours throughout, of course, for all painting except the gunmetal colour. When the track has taken on a worn, dirty metallic appearance, position this over the wheels, etc.

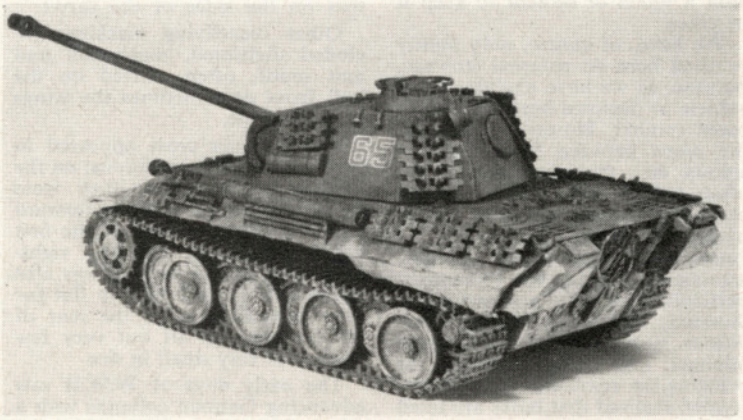
Adding the Mud

Finally, to get the dripping/dried mud effect, one again reverts to the near-solid tan and dark earth paint and by scraping the edge of the brush over the edges of the hull, etc., you will find that a 'muddy' build-up occurs very quickly, and when left to dry, hardens very quickly. To represent the dusty scuffing, etc., on the upper hull, use a *soft* brush, dipped into the two mixtures and wiped virtually dry of same; again, when applied over the original pantwork, you will be surprised – and, we hope, pleased – at the way the paint appears like a fine film over everywhere the brush has been.

Don't forget, of course, that all the external stores would be similarly mucky and dusty – but contrasts can be obtained by varying the mixtures or paint used. The groundsheet hanging on the left of the turret is from tissue paper rolled and bound with Model Railway Lining tape – this is an adhesive tape, coloured, with one side painted finish. This is best painted over semi-matt brown or black to represent leather, or dirty matt dark earth to look like webbing, but Germany used more leather than cloth for this type of binding.

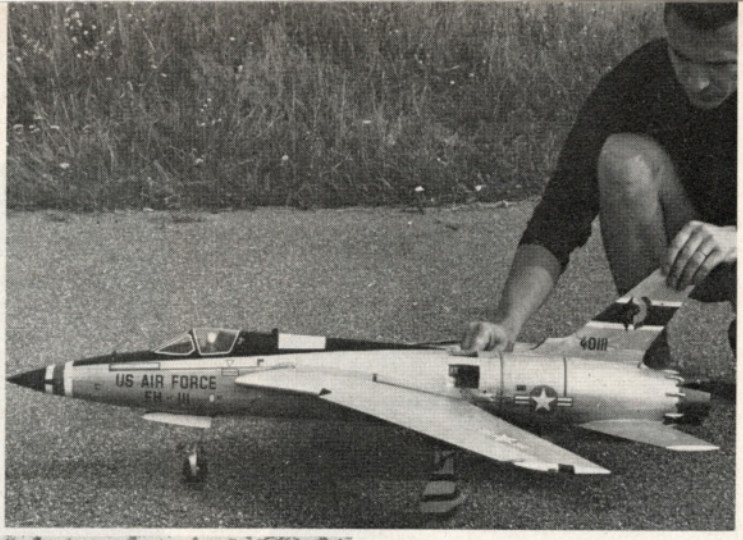
The finishing touches can now be added. For example, we did not like the fixed attitudes of the moulded towing rope and end hooks, so we cut the end pieces away and then drilled them out, taking a piece of thin twine (string is too thick, and cotton far too furry), which was dipped into a mixture of gunmetal and dark earth, with a touch of red added; this is then wiped several times between 'soakings' on a dry cloth until a metallic rusty appearance is obtained. When satisfied with the finish of the 'rope' (steel wire), dampen the ends between finger and thumb, and having applied a drop of polystyrene cement to the tapered ends, push them gently but firmly into holes drilled in the end pieces. However, it is obvious that one measures the string against the hook positions on the model before cutting to their required length. Remember, this is steel cable and thus is very heavy, so only a slight curvature appeared over its length and it never appeared tautly stretched between the fore and aft locating points, the rear ends just lay on top of the rear decking against the spare tracks carried there.

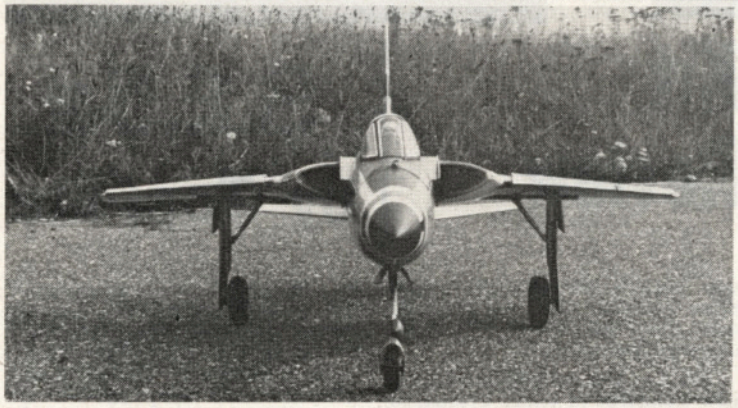
If, instead of the extra track around the turret, you are limited by lack of same, then you could put a three-barrel smoke cartridge ejector on each side, or sling 'ropes' (thinner twine painted earth and black, as with the cable above) between the attaching sky-hooks, and from this, hang groundsheets or lichen or similar odds and ends. Meanwhile, if YOU have any pet methods of adding extra details to your armour models, why not share them with other readers of *Scale Models*? We would like to hear from you.



Three-quarter rear view shows strong steel wire hanging on exhaust pipes; this is fuse wire wrapped taut around a bottle top and the ends bound over and under as the real thing. Steel helmet is from Tamiya German Infantry figure set.

Ducted Fan F-105

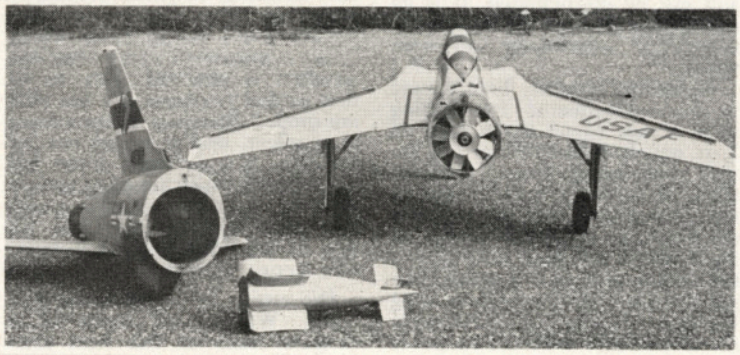


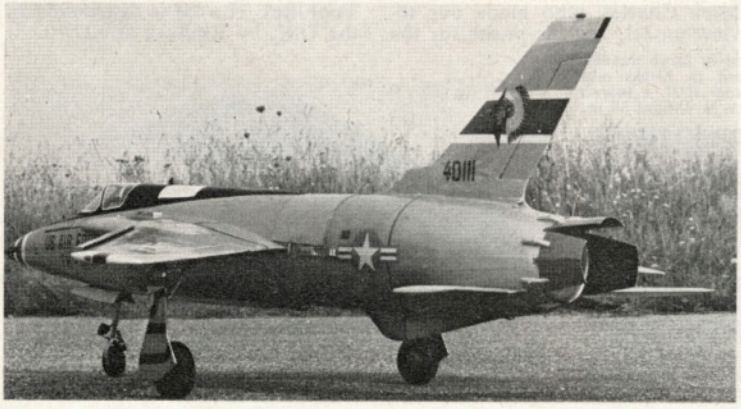


THIS 1/17th scale 'Thunderchief' is the work of Lucien Geiger, an enthusiastic French aeromodeller with a penchant for ducted fan propulsion. The model is 30 inches wing span and has two channel radio control actuating the ailerons. The undercarriage in the photos is purely for show as the normal take-off is by means of a 'dolly', left behind on the ground.

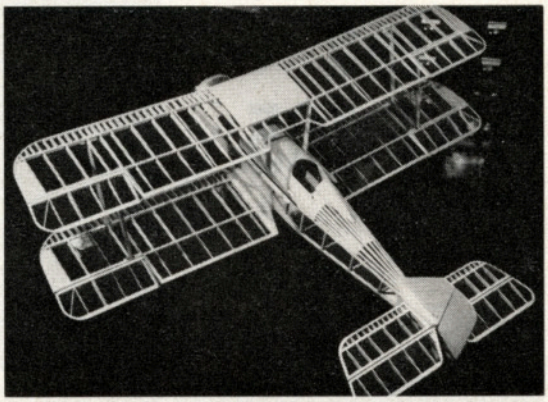
Note that the complete rear fuselage assembly detaches to give access to the rear duct, the eight blade fan which is driven at 18,000 r.p.m. by an O.S. Max 15, and the rear flow straighteners. There is another batch of flow straighteners ahead of the engine. Supplementary air intakes are employed in the rear fuselage feeding the $3\frac{1}{2}$ inch diameter fan.

This form of propulsion has had few really successful advocates. The late P. E. Norman was the best known; but his ducted fan models, unlike the rest of his large collection, were not scale types. Note that Lucien has fitted leading edge slats as a concession to the lower airspeed of his swept wing 'jet' which we hope will stimulate others to experiment.





Four views which convey the intricacies of this ingenious model. At top, Lucien Geiger is seen with the 'Thunderchief', giving one an impression of its size. The head-on view illustrates that though weight is critical for this form of model propulsion, Lucien has fitted a pilot in the cockpit. Immediately above, one can see the fan itself, the rear duct and the detachable acorn with flow straighteners. At left, an eye-level view as of the real F-105; the wing slats are a 'give-away' and we doubt their effectiveness.



Kit Review

S.E.5a by TopFlite

WHEN noted radio control scale modelling expert Dave Platt was engaged as a kit designer for the American firm of TopFlite in Chicago, the whole world of flying scale was enthused with expectation. He was joining a company that was recognised for its precision in balsa kit 'engineering' through a very popular range of flying models. It was only natural that the rapidly expanding interest in quality kits for scale models to suit the sophisticated proportional radio control would be the priority target, and with the arrival of this 1/6th scale S.E.5a, the customers will not be disappointed. It is an outstanding product of know-how, resourceful authenticity and innovation.

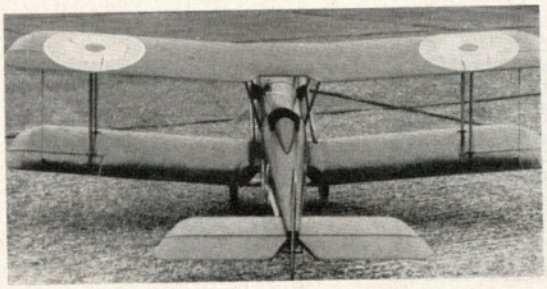
In the first instance, TopFlite are to be congratulated for settling upon a neat round figure scale of 2 in. equals 1 foot. When the design was being first considered there must have been a strong feeling that this was 'too big', but the demand for greater realism in flight which has built up over the last twelve months will alone have justified their stake in lighter wing loadings. Besides that, the scale fits in perfectly with the range of Williams Bros. accessories. Our model has wheels, one Lewis and one Vickers machine gun from these excellent sets which go to add that last touch of easily achieved perfection.

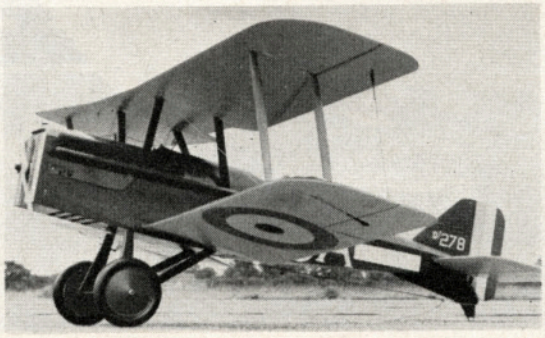
The kit also establishes entirely new standards in plans. Printed in attractive Olive Green, the plan surface has a waxed finish which forms a separation agent when the structure is removed. This means that neither the balsa nor the plan are spoiled. Standard of draughting is excellent, and this goes too for the detailed scale views of the full size aircraft which are more acceptable to judges than many a magazine plan! For the first time we find the S.E.5 fuselage gun installation drawn correctly.

Die-cutting is to the same precision. We do not know of a tougher critic in this field than Mick Charles, who made our review model, and his praise for the way in which he could complete the airframe so quickly, and the manner in which each part fitted the next with exactitude would bring blushes to the manufacturers. Mick has only one suggestion for improvement, and that is to make the dihedral braces stronger to stand up to landing shocks. Scale type rib spacing and structure means that the S.E.5 depends upon its biplane rigging to remain true and warp-free. In fact, the design is inevitably prone to warps but these disappear as the wing panels are rigged with the struts and piano bracing wires.

Flight characteristics are all one could wish. The S.E. will fly on a whiff of throttle, is straight and true through loops, takes off and lands like a charm. Full marks to TopFlite! The kit is distributed in the U.K. by RipMax at £27.10.

Finished in Mannock's markings as supplied in large decals, with Kingston Diamond Polyurethane mixed to Khaki and Tan tones, Mick Charles' model has Skyleader R/C, a Merco 61 Mk. 2 engine and weighs 6 lb. 2 oz. Span is almost 54 in.





Reference BOOKS

reviewed by and for Scale Modellers

Typical Beaumont Book fare at right includes the Air Combat pictorials, worth having for rare pictures.

Profile Publications No. 206: Supermarine Spitfire Mk. IX

Forty pages containing forty-eight first class photographs plus centre-spread colour drawings offer the enthusiast a most comprehensive coverage of this particular variant of the Spitfire family.

Many of the photographs are from private sources and the authors, Peter Moss and Len Bachelor, have written a comprehensive commentary on the technical and historical development of the Mk. IX's.

The centre spread artwork contains eight views plus close up of one of the Danish aircraft badges, the aircraft featured being: Mk. IX all-white PRU aircraft based in Italy 1943/4, Johnnie Johnson's 'JE-J' with the correctly coloured Canadian Wing identification Maple Leaf crest, a Mk. IX of 43(F) Squadron in 1945 and another IX of the Royal Danish Air Force. For the modeller, the variety of colour schemes and markings shown in the photographs will keep him busy deciding which one to model and the historian will find much that is new, including details of the 'Stars' of the Battle of Britain film.

43 Squadron

by John Beedle

Price 38/-, from Beaumont Publications

The 'Fighting Cocks', as 43 Squadron were more popularly known, are among the best loved of the old Fighter Command squadrons. Formed in 1916, flying a collection of F.K.8's and R.E.'s, they went into action with Sopwith 1½ Strutters in 1917 to St. Omer. Their war is covered in excellent and entertaining style and the halcyon days of peace that followed included the usual (and sometimes unusual) mess parties, aerobatic displays and the era of the Snipe, Gamecock, Siskin and Fury biplanes. The Second World War found them equipped with Hurricanes Mk.1 at Acklington and Wick, from whence they joined the Tangmere squadrons in time for the Battle of Britain, and although post-war studies of the actual losses and claims of the period have brought to light many discrepancies, the records of the Fighting Cocks and their kills remained much as claimed during the hard-fought summer campaign of 1940. In 1942 they moved out to Algeria, flying with the Hurricane II's, which gave way to Spitfire Mk.V's in 1943. Mk.VIII's joined the squadron in 1943 as well, and Mk.IX's appeared in August of that year, these being retained until 1947. Meteor Mk.IV's arrived in 1949 and Hunters followed in 1954, Vampire trainers being used in 1954 and after. The complete story of 43 is told in detail, with such things as serials and codes of aircraft quoted frequently in the text and Appendices include a listing of ALL types flown by the squadron, together with lists of serials of each type used and in many cases the full record of the aircraft, date taken on charge, its operational record and ultimate fate, while for the modeller there is a separate appendix concerning squadron codes and markings, etc.

The photographs are magnificent, ranging from the B.E.2 and 1½ Strutters through Camels, Gamecocks, Siskins and Furies, via Hurricanes, Spitfires, up to the post-war Meteors, Hunters and Rocket Firing Hunters attacking terrorists in the Radfan Hills in 1964.

Three hundred and thirty five pages of some of the most enthralling aviation history that we shall ever know, a book that should be on every aviation historian and enthusiast's bookshelf and one that modellers should also study, as the photographs will provide many ideas for colour schemes and markings, from the mundane to the extraordinary . . . and all for 38/-.

9 Squadron

by Flying Officer Tom Mason

Another squadron history in a similar style but somewhat slimmer.

Formed in March 1915 on Avro 504's, No. 9 flew B.W.2b's, 2c's, Bleriots, Maurice Farmans, Martinsyde Scouts and Bristol Scouts, going on to R.E.8's in 1917, which they kept until May 1919.

From April 1924 until July 1961 they flew: Vimy's, Avro 504's, Victoria, Virginia, Heyford and Wellingtons Mks. I, II and III. September 1942 saw Lancasters replacing the Wimpeys and they used Mks. I, III and VII's before changing in July 1946 to Lincoln B2/IIIG and B.2/IVA's. May 1952 saw Canberras on strength, while Vulcans joined in April 1962.

As with the 43 Squadron, book one is provided with complete listings of all types flown, including serials and details of their fate and many excellent photographs support the most entertaining and comprehensive text. Certainly, if anyone is contemplating modelling representative aircraft as used by Bomber Command R.A.F., then any of the aircraft shown in this book would truly be typical of the types used by this late and great Command.

These titles are currently available from Beaumont Aviation Literature, 11 Bath Street, London, E.C.1.

From the same shop one may also obtain their lists of up-to-date and new and second-hand book lists. For those who enjoy browsing, Beaumonts is recognised as the unofficial meeting place of the historian/modeller/researcher of aviation interests . . . the basement is piled high with every conceivable magazine and publication one can think of, and they also have large stocks of photographs and scale drawings available. Jack Beaumont is a well-known figure among the literary gentry and his friendly and efficient service is second to none. As he is fond of saying: 'Drop in and see me sometime' . . . it's well worth it . . . easy walking distance from Old Street Underground.

German Bombers of World War Two

by Alfred Price with artwork by Harold Jacks and John Young

Published by Hylton Lacey, Ltd., London, at 30/- plus postage. (Review copy from Modeltoys, 246 Kingston Road, Portsmouth, Hants).

This particular volume will undoubtedly be popular with modellers, as it has some of the most informative photographs and artwork that this reviewer has seen to date, bar none.

The types covered are: *Arado 234, Dornier 217, Heinkel He.177, Junkers 188* and *The Mistletoe Mistel* combination.

Each type is covered in depth, both technically and operationally, with some most interesting first-hand accounts by ex-Luftwaffe air crew of their sorties in these aircraft. The artwork is what will attract the modeller, and this covers in full five view full-colour drawings:–Ar 234B of KG.76, coded F1-AD, and also another drawing spread with F1-AA of the same unit. Dornier 217K-2 of KG.100, coded 'B'. Heinkel He.177.6N-SK of KG.100 in night bomber finish, and another five view of V4-AA KG.1 in Russian winter scheme, both versions illustrated being 177A-5's as per Airfix kit, a Junkers Ju.188A KG.2, coded U5-DP, night finish. Junkers Ju.188E of KG.66 Pathfinder scheme, and last Mistletoe combination of FW-190A-8 with a Junkers Ju.88-G weapon slung underneath.

The photographs are mostly either operational aircraft or close up detail views, those covering the Mistel 2 fittings being most useful for the modeller, as are those of the 'Fritz X' guided missile. However, even if you buy the book simply because of these superb photographs and drawings, we will be willing to bet that you will end up reading it from cover to cover, as

the text is written to suit both the technically minded and those who like more action in their reading. Alfred Price is possibly the finest exponent of German aviation research in regard to Bomber operations and their aircraft and it is very apparent in every page of this really excellent book – and all for 30/-. Amazing!!

Some of the finest models of B-17's and B-24's which are to be seen at the London I.P.M.S. Branch meetings are those made by Eric Munday. Eric is one of the original members and up until last year had served on the Committee and proven to be a most enthusiastic member. However, of late we had missed his presence and his models, but now we know why: He has been very busy indeed researching and writing on the subject of

Fifteenth Air Force Combat Markings 1943–1945

Published by
Beaumont Aviation Literature,
11 Bath Street, London, E.C.1, at 15/-.

A most striking cover makes this book easy to spot on any bookshelf, and although in the now accepted softcovers the quality of printing and paper is excellent and would appear to be very durable.

The insides of the front and back cover feature some excellent photographs of representative aircraft of the '15th' and the author gives a brief three page summary of the history of the 15th Air Force, of the U.S.A.F. Originally formed as an element of the U.S. Strategic and Tactical Air Forces in Europe and was activated on 1st November 1943. Mr. Munday takes the story on from there to include how the various wings and units were formed, who flew what types and where and also gives some details of the operations flown and the targets hit. However, it is the markings that are of the greatest interest, as it is this aspect of the '15th' that is covered.

Some excellent drawings in colour give the various patterns of tail and Group markings, also general camouflage notes as well, these are complemented by a most thorough text which takes into account every squadron, both fighter and bomber, with a two-page spread of fighter code/squadron markings drawings in addition to similar coverage on the B-24's and B-17's. Also included is a 'calendar' showing a complete daily record of operations flown during 1944 and a table giving the complete breakdown of the 15th Air Force from Wings, to Groups to Squadrons.

Also listed are representative aircraft quoting the type, serials, units, and also in many cases BOTH their code letter and serial numbers, ending with the list of Commanding Officers of Groups in April 1945.

The photographs shown on the inside front and back covers number twelve. These have been carefully chosen to illustrate the many points raised in the text and drawings. A truly invaluable work of reference to the researcher and modeller alike – and we wish both the author and publishers every success with this deserving publication.

Fighter Squadrons of the R.A.F. and their Aircraft

by John Rawlings

Published by Macdonald, London at 120/-
556 pages 8½ x 10⅞ inches.

Lord Dowding admits in his Foreword to this heavy tome that *'I did not realise what a vast amount of detail it would contain'* – and we believe there'll be many a purchaser still discovering its hidden assets long after that first exciting browse. For here is the work of a devoted historian. All of our own Service connections with Fighter Command are checked out 100 per cent. Only the colour of 60 Squadron's Spitfire FR18 nosebands are faultily identified: but John has used the word *presumably* black and white so we'll excuse him! They were black and yellow !

It's quite something when one turns up Appendix 23 to find the best part of a thousand airfields listed and with them the numbers of every R.A.F. Fighter unit based thereon! One has to cross check to discover, for example, where Ywadon might be (17 Squadron were there, in Malaysia, with Spitfire VIII's in '45).

The photos are large, numerous, rare and intriguing. Camouflaged Gauntlets, emblazoned Grebes, a red and silver Spit. F21, the positively unique markings of Hurricane 11c of 247 Squadron, World War One Camels, SE5, Martinsyde, Snipes and Triplanes are but part of the enormous variety. Every Squadron is described from its creation to last location with the badge where authorised, and a listing of equipment and locations. One can soon identify the Squadrons which had a tough war. Movements month by month, re-equipment and a long list of Commanding Officers provides significant evidence of extensive activity. Here is a book which one can cherish as a constant companion; ever ready to provide a gem of information. Who knew that P/O Stuckey of 80 Squadron brought down a Savoia-Marchetti by firing a Very Light into the cockpit from his Gladiator? Or that Spitfire IIa's could carry a long range tank under the port wing panel? Or that it was 67 Wing Advanced Air Striking Force which had red, white and blue Rudders for the benefit of itchy French trigger fingers? As a companion for the established 'Bomber Squadrons' this thicker volume re-established standards of appreciations of aeronautical history and represents statistical research at its very best.

Battle Over Britain

by Francis K. Mason

published by McWhirter Twins, London at 84/-
636 pages 6¾ x 9¼ inches.

At a time when one well-known air specialist told us that he expected 'Battle of Britain' bootlaces to come on the market, we find ourselves surrounded by all forms of 'B. of B.' literature and concessionally identified toys and models associated with the film. Here is something that stands way above the 1969 melee, and which is surely the definitive record of 1940.

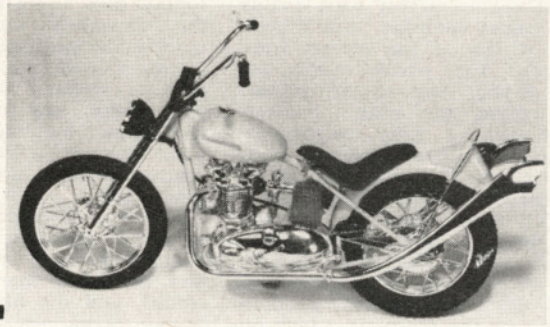
Nowhere else have we been able to learn the name and squadron of the pilot we saw escape from a burning Hurricane on September 7th. Moreover, the book tells what happened, subsequently, to this Polish Officer, his decorations, and his victories.

As a war diary it is incredibly revealing. The industrious can tot up the losses in terms of aircraft. Those who were not involved will perhaps appreciate the intensity of the battle, and appreciate something of the little emphasised effect of crashing machines, their bombs and ammunition upon civilian housing. Page 304 carries a picture that would be a vivid memory for many a London and Home Counties resident of that time. The *types* of aircraft listed in the casualties is also revealing. Far-stretched Bf 109 E-1 and E-4's, the better ranged Bf 110 C-4, the Ju 88 A-1 and Do 17z are those one does *not* see in the much heralded film yet appear in greatest numbers (along with the He 111 P and H) in the extensive lists.

Here one can discover how friend and foe came to grief simultaneously. On September 15th, the R.A.F. lists include Sgt. Holmes of 504 Squadron, shot down by Do 17 and who parachuted safely from his Hurricane at Victoria. In the opposite column one finds a Do 17Z-2 of KG3 shot down, crashing into Victoria Station at 12.10 hrs. Incidentally, this is depicted in the film by a He 111. The book gives the CN and identity markings for the Dornier. It is in the small type, conveying a correct atmosphere of fact packed reference data that one discovers so much previously unpublished information. Additionally, thirteen types are drawn in accurate colours, seven more in straight black and white, so that for the fastidious model maker, the book has only one omission; this is the absence of cross-sections. To summarise, a tremendous book, the work of a dedicated historian which will be respected by everyone in the business as the final arbiter on the most important aerial battle in European history. Thoroughly recommended and worth more than its jacket price of 84/–.

NEW to YOU?

MONTHLY REVIEW OF NEW PRODUCTS CONDUCTED BY BOB JONES OF I.P.M.S.



KITS of Armoured Cars are rather less common than those for other types of armoured vehicle and considering the very wide use that was made of this type of weapon during the Second World War it is surprising that more manufacturers have not introduced kits of relevant vehicles. However. **OTAKI** (Japan) have released a near 1/35 scale kit of the *Sd.Kfz. 234/2 PUMA III* German eight-wheeled armoured car.

Moulded in medium grey plastic, assembly is very simple with the bodywork in the usual clam-shell pattern enabling one to remove the top to expose the electric motor (which is provided with the kit) and to change the batteries – which need to be bought separately.

However, the drive via the rear wheels has meant that the back of the hull is not strictly accurate, but provided one dispensed with the power unit, one could, of course, remove the offending area and replace this with plastic card panels. The turret shape is excellent and the gun elevates as on the actual car; but the jerry cans provided for the sides of the turret are rather poor representations of the real thing and best discarded.

The wheels and tyres are moulded in one piece rubber units, with a slim plastic insert on to which is scribed an approximation of the correct pattern of hub so noticeable on the *PUMA* vehicles; however, apart from this and the need to tidy up the rear of the hull the kit can be made into a fine looking replica of this famous German weapon. Decals are rather skimped, consisting of crude crosses and fictitious licence plate numbers. There is no comparable kit of the *PUMA* available and no armour enthusiasts can afford to be without at least one model of a W.W.II vehicle of this type. Jones Bros. of Chiswick stock this kit and the price is 19/11d. plus post. Also from Jones Bros. comes the 1969 **MINITANKS** Catalogue (10/-). For those not familiar with these ready-made range of military models of fighting vehicles and transport, we would say that they are manufactured in Austria to a very high standard of accuracy and detail. Packed in clear plastic boxes with a descriptive card attached, they are plastic with semi clip-together assembly. The way this is done is very clever indeed and in some cases it takes quite a time to spot the various join-lines. However, the serious modeller can have a most interesting time in converting these already accurate little models into miniature masterpieces – one can purchase a wide range of subjects and many of the parts are interchangeable so one has basic conversions virtually at one's finger-tips.

The road wheels and 'tyres' are moulded in one piece but they would do credit to kits of four times the size. Apart from the various tanks, trucks and artillery, Minitanks also produce sets of decals for their models and also sets of soldier figures.

REVELL'S most recent motorcycle kit is a 1/8th (photo above) *Triumph Custom Show Bike* (price 51/–), so popular on the American West Coast, where the sun and wealth encourage such showpieces. The model depicted is a circa 1955 Tiger 100 (500 c.c.), which featured a solid frame with sprung rear hub, to which all the 'standard goodies' have been added, such as small petrol tank, high level (!) pipes, 'ape-hanger' handlebars, etc. etc. – plus, of course, plenty of chromeware. The kit is produced in white and 'chrome' plastic, individual pieces fitting together very well. Tyres are soft plastic and feature excellent tread patterns. Construction can be very rapid, largely due to the clear and precise instructions and the completed model, especially if one's imagination is allowed to run riot with the paint brush, is very realistic. However, like the full size, it can induce feelings of nausea or envy, depending upon the individual taste!

We recently applauded the addition of a German Half-Track 251/1 to the Nitto range of kits, and this month we welcome another newcomer to this review, **SANKYO** Company of Japan. Not generally known in England we are certain that with the release of their kit in 1/32 scale of the *Kubelwagen* – wartime German Volkswagen light car – their products will be in considerable demand.

The original Kubelwagen, or to give it its correct designation *Volkswagen (KdF) 1 typ 82 Kubel,* was designed for much the same purpose as the later American Jeep vehicles, it entered service in 1939 and the variant as presented in this kit served continuously until the end of the war in Europe.

The kit is moulded in tan-col-

Bristol Beaufighter by Frog to 1/72nd scale. The kit includes optional parts, such as short and wide span horizontal and angled tail-planes, together with the two types of rear cupola common to the early and later Marks of the type.

oured plastic of very good quality and comes complete with rubberised wheels of the correct tread pattern. The wheel inserts are of plastic, and when pressed into place, the wheels do look most realistic. Like the original vehicle the kit is simplicity itself and is, in fact, intended to be clockwork driven. The clockwork motor provided in our sample gave the model a performance akin to that of a Hot Rod; but we have assembled the sample with the engine included to illustrate how the baseplate, which fits under the chassis, does protrude slightly, spoiling the otherwise scale appearance. As a basis for a static or display model, the kit is ideal.

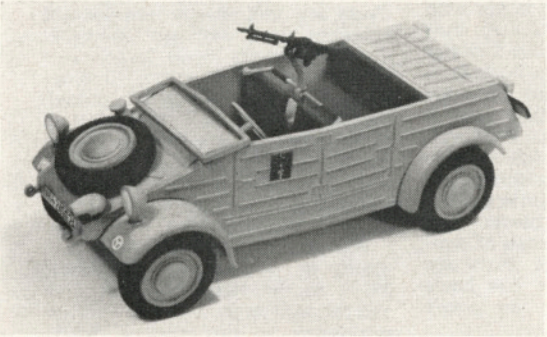
The one-piece chassis has the mudguards moulded integrally and the complete bodywork is made up by simply cementing the two separate full-length body side-pieces and adding the bonnet, rear engine cover and rear coverplate to the chassis structure. Some little care was required to obtain a tight fit of the bodywork over the mudguards, but this was because our sample suffered from slight warping of the body parts. A detailed instrument panel and steering wheel are included, as are the seats and the rear crash-bar. A pedestal-type mounting is also fitted into the centre of the open bodywork on to which fits a very neatly moulded MG.34 machine gun.

The model is completed by cementing the headlights and intake air filter and spare wheel in place and adding the windscreen.

Our sample was made up as a vehicle of the Afrika Korps in overall sand finish, with the windscreen glass removed (as was common on most vehicles used in the Desert Campaigns), and no hood or hood supports fitted. The kit does NOT include the variety of hood support rails. There is no doubt that the conversion enthusiasts will quickly find such items to add such as rear view mirror, door handles, perhaps 'opening' the doors with a fine razor saw or similar tool, and scratch-building a hood or hood equipment. Note that wheel centres provided are one of two types used.

Decals are included for a choice of three vehicle schemes, Desert Sand, *Wehrmacht* or S.S. Full unit and divisional markings are included, and the number or road licence plates are also most useful. Altogether an excellent little kit around which one can if one wishes, build up a really detailed model, but in its own right it has the rather utilitarian appearance of the original.

Box art is also a useful guide to painting, and the instruction sheet although in Japanese, includes a very accurate and detailed four-view drawing of the original car from which one can glean a lot of fine extra detail such as that for the suspensions layout, etc. This kit is announced as No. 2 Sankyo Jeep Series Kit, so we are now busily trying to find out what Kit No. 1 was! If anything like the quality and standard of the *Kubel* (literal translation – Bucket), it should be another popular subject.



Second in the 'Jeep Series' of kits produced by Sankyo of Japan is 'Kubelwagen' to 1/32nd scale. Our model is painted with Humbrol Authentic Military Vehicle Colours Afrika Korps Sand -yellow with the applicable decals as provided in the kit. A clockwork motor drives this model at a very high speed, although the power unit is hidden away under the rear bodywork decking.

Heller's Potemkin

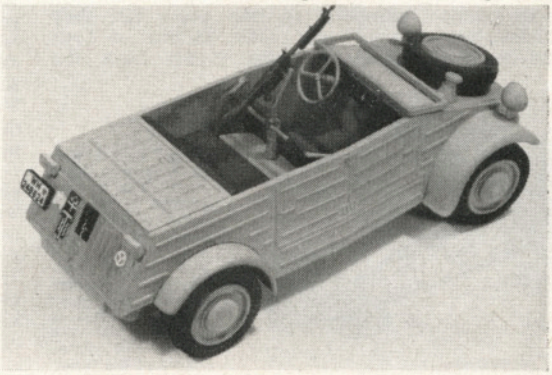
reviewed by Harry Woodman

SOME years ago **HELLER** issued a kit entitled *Cuirasse Maine*. The model inside the box bore little resemblance to the famous American battleship which blew up in Havana harbour in 1898 precipitating the Spanish American War.

The kit did, however, have a slight resemblance to the *U.S.S. Olympia*, Admiral Dewey's flagship at Manila Bay but the model was crude and very heavily moulded and was suitable only for Junior to play with in the bath. The kit was, to put it bluntly, a complete swizz and readers are warned that it appears that a few of these Heller 'Maines' are still being distributed, especially at Christmas time when all kinds of old kits reappear, frequently in new boxes and sometimes under different names. Spies have informed the writer that a few of the old Heller *Maines* were seen last Christmas not a million miles from a famous toy shop in Regent Street under the PYRO label so ship fanciers should tread warily.

After all this, it was with some trepidation that the writer approached a large box in a Parisian shop recently which bore the title *Cuirasse Potemkin*. The box painting looked slightly familiar and the period was almost right but the item inside was not the *Maine* with a Russian flag hoisted on the sternmast but a well moulded, accurate representation of the other ship which occupies a niche in history because of a mutiny which took place on board.

Hellers second attempt at a predreadnought battleship is vastly different from the first. The manufacturers claim that the model was scaled from original plans, and that the co-operation of the Soviet



Right, the Airfix 1/144th Boeing 747 is still a 'monster' even when one stands it beside a 1/72nd fighter! Kit assembles easily due to lack of frills. Overall length of 19 in., span approx. 17 in., calls for a wide shelf. B.O.A.C. gold decals do not show against deep blue background.

Large box for the hull size of Heller's Potemkin – made with full co-operation of Soviet Authorities who wanted a model of their famous warship.

Naval Authorities was enlisted to ensure authenticity. A check with all the material available confirms that the model is indeed authentic.

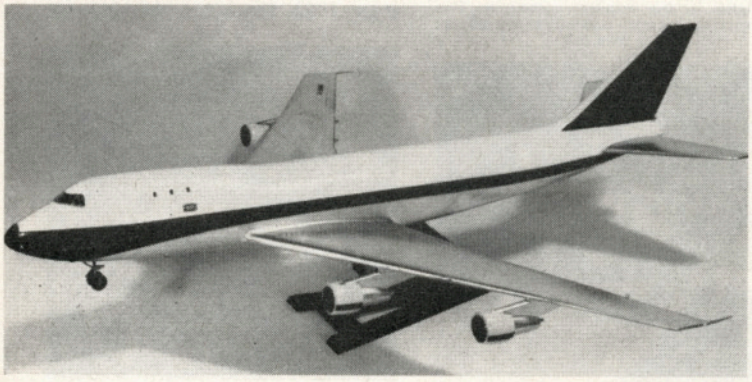
The box is rather large for such a small model, for the Potemkin is in 1:400 scale which gives it an overall length of 11¼ inches. The price in Paris is about 45/- which means that it will be somewhat expensive here but it is a kit for the connoisseur in any case. The scale precludes some of the finer detail but the parts are well moulded and the assembly straightforward. The only faults are those which a manufacturer can hardly avoid, e.g. too thick components such as lifeboat perimeters, bulkheads and bridge railings.

Heller have included a pair of small boats complete with davits to be mounted on either side of the forepeak and it is quite likely that the original design of the ship included these items. The few photographs of the ship in service indicate that this boat gear was removed, probably because it cluttered up the fore deck in front of the turret. This space was rather limited and some of it was already taken up by the anchor gear, including two large goosenecks. These latter items were, in reality, quite substantial, being about half the size of the main boatdeck goosenecks. The kit items are the same size as the boat davits so that these should be replaced by scratchbuilt members.

A small decal sheet is supplied which consists of a number of poorly shaped black rectangles which are meant to represent the windows of the wheelhouse. The idea is not bad but it is recommended that pieces of black decal from the scrapbox be used or characters from Letraset. The other items on the decal sheet are the nameplates *POTEMKIN* in Russian characters, to be mounted on either side of the stern. These are somewhat doubtful for although the ship has become famous, mainly because of Eisenstein's masterful film classic, as 'Battleship Potemkin', the full name would be carried and this was *Kniaz Potemkin Tavritcheskii.*

The colour scheme of black, buff and white, as shown on the box lid painting, is accurate and if the builder does not wish to adorn his model with the crimson flags of Bolshevism, he can fit the Imperial Russian naval ensign to the stern mast. This was usually of large proportions and consisted of a pale blue cross of St. Andrew on a white background. Possibly in deference to the feelings of the Soviet Authorities who provided the data, and possibly because Heller might be considering exporting the kit to the Soviet Union the Imperial Russian Eagle badge which adorned the forepeak of the original ship is omitted from the model.

The Heller *Potemkin* is moulded as a 'full hull' model, as are almost all ship kits, and is intended to be mounted on trestles. Large scale models of the type seen in museums which have a length of five to six feet look impressive when the full hull is seen. However small models, warship models in particular look best built up as waterline models when the superstructure is not minimised by the bulk of the underhull. A few manufacturers have produced kits where the model can be built up either way, but most still avoid doing this, possibly it is easier and cheaper to produce full hulls. The *Potemkin* will look infinitely better if converted to a waterline configuration, although this requires some tricky work with a fretsaw and lots of elbow grease for the final sanding. However, the reader might be prepared to do this, for the fact that he is reading this magazine indicates that he is a plastic modeller and not just an assembler of plastic kits.

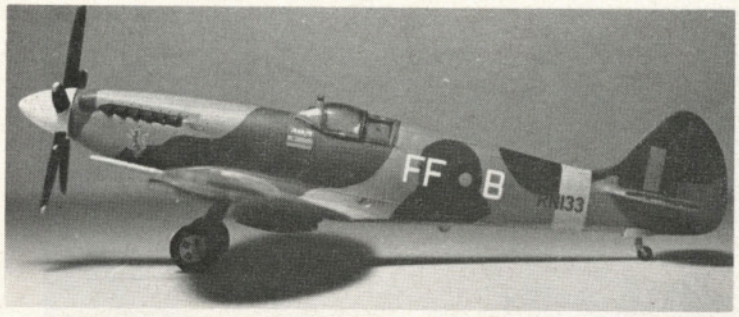


DECALS

by G. Griffiths

MODELDECALS is the name adopted by **MODELTOYS** - 246 Kingston Road, Portsmouth, Hants, for a new range of 1/72 scale aircraft decals which are originated, designed and produced exclusively for them by Richard L. Ward and Robert C. Jones.

Sheet No. 1 was for *B.A.C. Lightning* aircraft and includes full squadron and unit markings for Mk. 1a of 56 Squadrons, Mk. IIs of 19 and 92 Squadrons, and Mk. 6s of Numbers 23, 5 and 74 Squadrons R.A.F. The roundels are provided for the aircraft of 92 Squadron; but in the case of the other



Frog 1/72nd scale XIV Spitfire. The cockpit canopy provided requires careful trimming for snug fit while rear of cockpit transparencies proved to be a little deep. These slight errors are easily corrected. Markings are provided for an aircraft of 132 Squadron Royal Air Force, or a Belgian based Mk. XIV of 130 Squadron. The Spitfire XIV kit also includes parts to make the 1/72nd scale V-1 Flying Bomb.

aircraft those provided with the basic kits should be used, this is, in this instance, an excellent innovation, as it enables the printers to accommodate an 'extra' set of insignia plus a bonus in the form of a corrected fin marking for the Mk. 1a Lightning as produced by Airfix.

The gloss finish is faithfully reproduced and the markings were drawn direct from the original aircraft and colour standards used to ensure authenticity of matching shades.

The instruction sheet is very comprehensive and includes details of the Squadron colours as applied to each of seven aircraft. Price of this set is 7/6, plus 6d. postage (U.K.).

Set No. 2 consists of a sheet of markings for three *Phantom* aircraft. An F-4B of VMF-531 U.S. Marine Corps as seen at El Toro A.F.B. 1968, the F-4C of Colonel (now Brigadier-General) Robin Olds U.S.A.F. and an F.G.1 of 767 Squadron Royal Navy. The choice of markings is excellent as the U.S.M.C. aircraft is among the most colourfully marked and makes an interesting contrast to the more commonly modelled U.S. Navy versions, while that flown by Colonel Robin Olds includes two 'Kill' markings for the MIG-Aircraft shot down by the pilot at that time (he later shot down two more) together with his squadron and personal insignia and the Royal Navy machine includes the large yellow bird fin marking of 767 Squadron Royal Navy. The two American Phantom sets do include national insignia, but that for the R.N. Phantom does not.

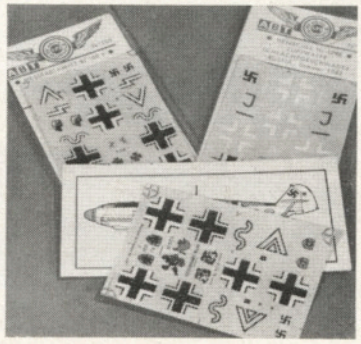
The instruction sheet is extremely complete, with potted history of each machine and sells at 5/3 per sheet (plus 6d. postage in U.K.).

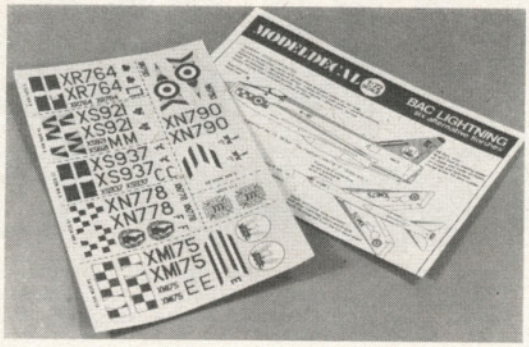
The almost non-ending stream of decals suitable for models of aircraft flown by the Luftwaffe still continues, the latest being additions to the **Aerophile** 1/72 scale series produced by **Max ABT** of France (available from stockists in England at 5/- per set).

These sets each come in a clear plastic envelope measuring $4\frac{3}{4}$ in. x $2\frac{1}{4}$ in., the actual decal sheets being even smaller. However, Luftwaffe enthusiasts will certainly welcome these as the insignia offered are most interesting. Sheet No. 102 is for a *Henschel Hs 129* of the Schlactgeschwader, Russian front 1942. Markings included are

Airfix Cessna 0-20A (Skymaster) counter-insurgency (COIN). Note overall light grey scheme with matt white upper wings, which extends the width of the wing chord across the top of the fuselage/centre section. The underwing stores are painted Humbrol 'Airframe Silver' which could be mistaken for natural metal. Cessna is a delightful little kit and although some object to the rather over-scale rivet and panel detail, the fastidious can, of course, remove this surface detail with wet and dry sandpaper. Models on these pages built and photographed by Richard L. Ward.

Frog P-40B Tomahawk, we have had kits galore of the later Curtiss P-40E's but this is the first to appear in 1/72nd scale. Of particular note are the excellent decals, the serial being printed against a Dark Green background as on real aircraft. P-40Bs were delivered in U.K. schemes of Dark Green and Dark Earth, finish with Sky Type 'S' undersides. They were repainted Dark Earth and Mid-Stone with Azure Blue undersides. The original Dark Earth was left untouched but the area of the serial was left in the original colouring. Two alternative sets of markings are offered in this kit.





Left: Model decals sheet for Lightning Mk. 1a, II or 6 in 56, 19, 2, 23, 5 and 74 (Tiger) Squadron Royal Air Force.

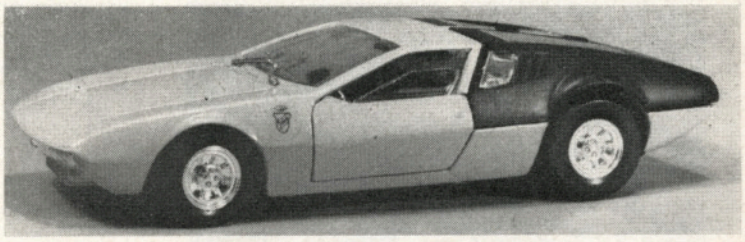
six crosses, swastikas and the Infantry Assault badges, together with red cross and kill markings, plus Werke No. 0364. A somewhat expensive sheet perhaps, but it does also include Gruppe and Staffel identification decals. Sheet No. 103 is better value for money, being basically for the *Bf109F* flown by Uffz. Hoffman of 9 Staffel/JG.2, France 1941. In addition to full national insignia the sheet also contains extra 'Richthofen' Geschwader crests, together with the small winged insect motif of the three Gruppe, making up JG.26 at that time. Sheet No. 104 is for the *109E* of Kdr. Hptm Erich Mix of III/JG.2, May 1940. Again, all national markings are given, together with Mix' own personal insignia, and Gruppe and rank Chevron, plus red cross and octane triangle. Also included are the Tiger Head insignia of JG.26 and personal insignia for Hptm Ebbinghausen, the silver Bull and Mickey Mouse, again of JG.26, and as an extra, the Red Devil nose markings for 9 Staffel JG.54.

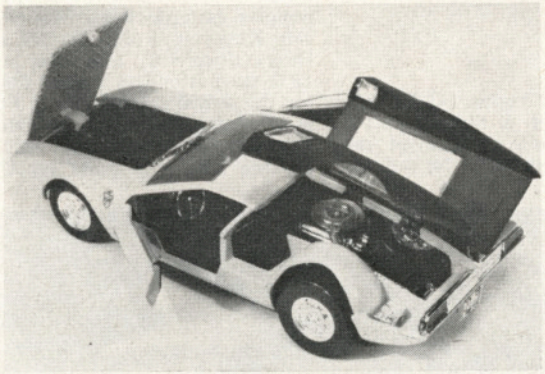
Sheet No. 105 is a *109E* as flown by Major Reinhardt Heydrich, III Gruppe JG.1, summer 1940. The full unit and personal markings for Heydrich's aircraft are given, including the 'SS' runes and rank symbols. Extras in this case being the 'Red Lion of 9/JG.2, 'Shamrock' of III Gruppe/JG.26 and 'Dicky Bird' of 8 Staffel JG.54. Each set includes a detailed instruction sheet showing the camouflage and colouring details, together with the splinter patterns for each main subject. The decals are almost flat matt, with good adhesive qualities, but on some of the smaller details, the register on the samples provided was slightly blurred; but this may be an occasional rather than a general fault.

For those preferring post-war aircraft types, the new **STOPPEL Decal** No. 43 will prove to be popular (sample from Modeltoys, 246 Kingston Road, Portsmouth, Hants, price 3/6). The sheet is for 1/72 scale roundels and fin flashes for the Royal Canadian Air Force (also being suitable for Royal Canadian Navy aircraft such as the *Sea King* and other types). A

Top, markings for the F-4C of Colonel (Now Brig. General) Robin Olds, perhaps America's best known fighter pilot in the Vietnam conflict, are supplied in Modeldecals Sheet No. 2 at 5/3. On the same sheet are markings for an aircraft of U.S. Marine Corps Squadron VMFA-531 carried by their aircraft when based at El Toro in 1968. The very fine detail of the squadron fin marking is apparent in the bottom photograph. The kit upon which these decals are shown is that produced by Airfix with slight amendments to the cockpit canopy providing for the small middle window. Central is the Phantom F-4K as flown by 767 Squadron, Royal Navy. This is the only aircraft on the sheet where, because the national insignia included in the Frog/Hasegawa kit for which these markings are intended, are of an excellent quality, Modeldecal felt it unnecessary to provide the roundels.

total of 56 roundels are provided, ranging in size from $\frac{7}{8}$ in. down to $\frac{1}{8}$ in. with the Maple Leaf motif in the two post-war styles used by the Canadian Forces. Fin flashes are also included, being in the red/white/red with Maple Leaf pattern. Also given are the small national flags, and these are in overall red with small Union Flag and Crest, and also in white with red cross and Union Jack in the one corner, thereby enabling the modeller to choose either early post-war or present-day finishes. High gloss finish does not detract from the appearance of these decals and adhesion is excellent. A very useful set at a reasonable price . . . certainly there are many models or kits available now for which these would be suitable.



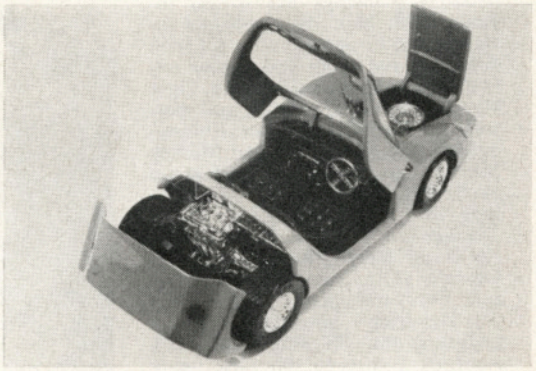


Above and left, the Ghia Mangusta de Tomaso 5000 by Politoy, quite the most remarkable die-cast product we have seen. Independent suspension, steering, all hatches opening, engine detail and even a 'bonnet' catch in this yellow 1/25th model.

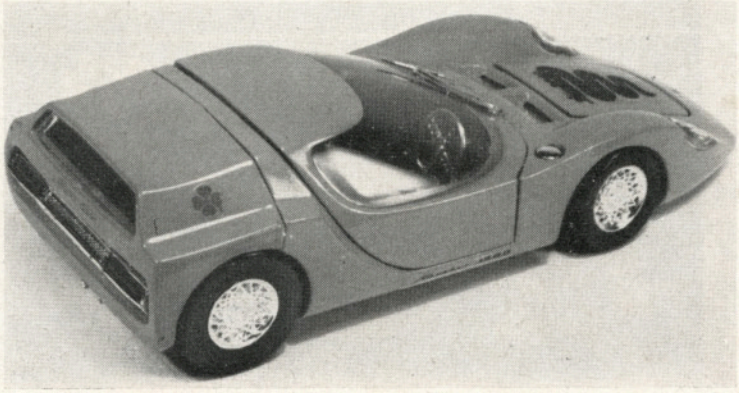
POLITOYS of Italy's new 1/25th scale *Ghia Mangusta de Tomaso* 5000 and *Osi Scarabeo* must be without doubt, the most beautiful die-cast toys ever. They're certainly among the biggest – 1/25th scale gives the *Scarabeo* a wheelbase of 3-7/16 in. and an overall length of 6 in.; the *Mangusta* has a wheelbase of 3-7/8 in. and is $6\frac{3}{4}$ in. in length.

It's this beautiful size that does it, of course; both models have plenty of room for exquisite chromed engine detailing, Ackerman steering and individual suspension all round, the front wheels actually turning via the steering wheel. Common to both models too, are the usual 'opening features' which include engine covers, doors and bonnet and, in the case of the *Scarabeo*, the entire windscreen and centre body top which hinges forward and up to allow access to the cockpit. In 1/25th scale it really is worth opening the doors to look inside. Wheels and tyres on both the models are fully detailed broad section racing slicks and the cockpits of both feature full instrumentation details. In both cases a 'real' spare wheel is carried and the *Ghia Mangusta* even has a battery, jack and bonnet catch.

The casting is superb and since the models are largely metal, their weight is 'substantial' – another novelty with die-cast models. Perhaps the most impressive single factor about these new 1/25th scale Politoys (and it's one of the main reasons for their undoubted beauty) is the wonderful paint finish. The *Mangusta* comes in an ochre yellow while the *Scarabeo* is in deep orange, and in both cases the finish is the finest we've ever seen on die-cast models. They're going to be rather costly in this country at 65/11, but you don't need to be a collector to think them worth every penny of it. They are available from the British Importers Model-Time of 6 St. Georges Walk, Croydon.



Right, below, (and on the cover in colour) is the futuristic Osi Scarabeo with all-enveloping screen. Note the 'sideways' engine, spare wheel under the bonnet and fine 'cockpit' detail. (Colour is bright orange.)



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M.E. Bf.109E	1/72	3/–
M.E. 262A	1/72	3/–
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P-51D Mustang	1/72	3/–
S. Spitfire Mk. 11	1/72	3/–
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Airfix Kit, with markings from Modeldecal No. 2.

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Tamiya 1/35th Scale Tank crew figures as reviewed in text.

BOXED sets of Tank Crew and German Infantry figures produced by **TAMIYA** in 1/35 scale (imported by Richard Kohnstam Ltd.).

The Tank Crew set is made up of the Commander and Driver from the 1/35 scale kit of the Panther V, to which has been added another Commander figure dressed in field cap and overcoat rather than the alternative tanker's working dress uniform. Moulded in grey plastic, the very fine detail is remarkable, such as rank and unit badges and the very fine control wires for the headset r/t equipment. Each figure has separately moulded arms, and by chopping and changing, one can alter the pose of driver or Commander alike. We have to allow for import duties and tax in the most competitive price of 5/- per set.

The Infantry Figures are, if anything, even better; four are included: one is lying prone, one is crouched running, another kneeling firing, and the last upright, marching 'at ease'. Of these, only the moulding for the prone figure has provision for separate arms. However, included with other extras such as three steel helmets, four shovel/bayonet scabbard pieces, and spare ammunition pouches, are two model 7.92 mm. MG34. One is designed to fit with the prone figure and the other may be mounted on a small plinth, together with a highly-detailed 'open' ammo box in which the belted individual 'bullets' are clearly visible. In addition to this, alternative arms holding binoculars are also provided so that the machine gunner can, if required, have the binoculars instead.

The plastic is of good quality, moulded in near Field Green uniform colour. Box art is of a typical Wehrmacht Infantryman with other illustrations of the various weapons included in the set, plus colour illustrations as a guide to painting the various insignia carried on their uniforms.

These figures are ideal for either adding to diorama layouts or as separate figures in their own right, mounted on the stands as provided in the kit.

Tips on colour of equipment and painting German Military figures

– by Les Bouts

THE German Infantryman wore Field Grey jacket and trousers. On the collar of the jacket, were dark green patches for identification as an Infantryman. Later these coloured patches were replaced by those of field grey. The ordinary soldier was identified by having two silver bars on the patch, an N.C.O. had silver bars and a silver edging and also rank chevrons on their jacket sleeves. Officers had two white bars, plus the silver edging and also their rank badge (in the form of 'pips' in silver, rather like those used by the British Army) on their left shoulder strap. All Infantrymen wore the German Winged Eagle motif on their right breast above the pocket and also on the field service cap. When steel helmets were worn, on the left-hand side was the Black Shield device on which appeared the silver Eagle, while on the right-hand side was the shield made up of diagonal bands, left to right in equal widths of (bottom to top) red/white/black. Jacket buttons were dulled silver, as was the metal buckle on the black or brown leather belt, the buckle carried the wording 'Gott-mit-Uns' and again the silver Eagle.

The black leather belt carried much of the Infantryman's equipment, and starting at the left-hand side of the front buckle working round anti-clockwise:

Three ammunition pouches for rifle ammunition (black leather), each holding ten rounds of ammunition for the standard Mauser Kar 98K rifle; next to this and almost under the arm was a trenching tool with the blade strapped to the belt, and then through a crossed strap arrangement was pushed the bayonet scabbard. The trench tool handle was wooden, the bayonet scabbard dull metal, field grey or black. On the right hip was the water bottle; this was pear-shaped in field grey or light blue with a metal or field grey top. Next and last are the right-hand three ammunition pouches matching those on the left, again in black leather.

Over each shoulder goes a narrow strap which appears to be vertical when viewed from the front, but goes across the shoulder blades at the back. At the top of the back is the Mess kit container, dull metal or field grey, and hanging below this is a rolled poncho or waterproof cape, again in field grey, held by two black leather straps.

Looped over the top of the right shoulder is the strap, also in black leather, for the haversack, in which is kept spare socks, shaving kit and so forth. A gas mask container which was circular with corrugated surface, and a metal clip on top is slung above the haversack. This was field grey or in a few cases, black. The original Jackboots were highly polished black, but a shorter boot came into service in 1943 which was softer and although still black was usually duller finish.

During the winter campaigns in Russia, owing to the attrition rate on German supply lines, deliveries of winter clothing was pitifully meagre, and in forward or isolated positions where their original boots had worn through, it was common to see combat troops going into action with the remains of their boots, or at one time, just sock-covered feet covered with crude blanket-bandages. Also outer clothing was in short supply, and many non-standard 'uniforms' were seen.

The standard Infantryman's rifle was the Mauser Kar 98K 7.92 mm. This weapon had a wooden stock and butt with a steel butt plate, and the barrel lying in the top of the stock forward to the front sight was dull metal; the wood was of a lighter tone than that for the rifles used by the allies, though it quickly darkened in service. Frequently in winter when troops also sometimes wore white camouflage

smocks, the rifle would be wrapped in white cloth.

The 7.92 mm. MG 34 machine gun was virtually all steel and metal, only the rear butt being in wood. The Schmeisser automatic pistol which could also have a short steel butt added, rather like that on the later British Sten, were all steel metal, with no wood at all.

Painting figures

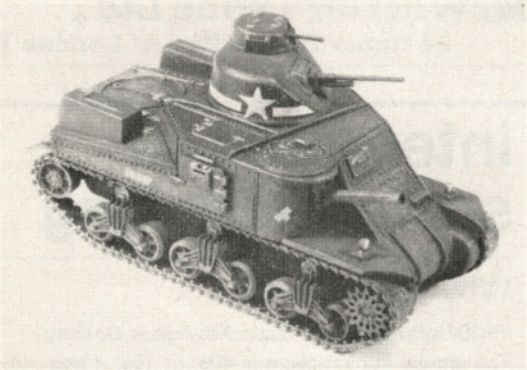
When painting figures, remember that *all cloth must* be matt finish and that any normally glossy surface, such as on Jackboots should not be too highly glossed on your miniature or it just will not look right. Avoid handling the model as much as possible, as grease from the fingers will impart an impossible-to-remove sheen and also darken the areas that are handled. Easiest way to paint any figure is to heat a long pin or similar solid but slim object – a steel knitting needle is ideal for larger scale figures, and then pierce some part of the model, like the bottom of a boot or shoe, etc., thus enabling one to turn the model at will for the entire period of painting.

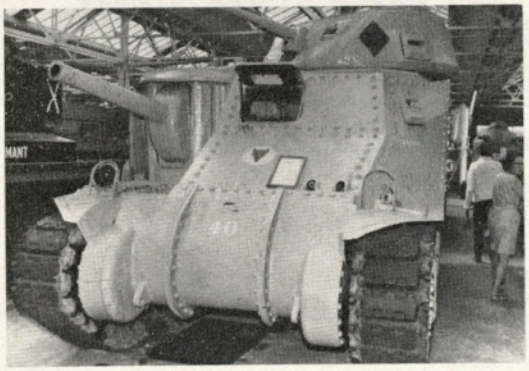
For German Infantrymen we recommend Humbrol Military Uniform colours field grey which is virtually an exact match for the original cloth. For steel helmets and metal equipment known to be in field grey, use the same Humbrol paint but gently buff the part with a soft cloth WHEN THE PAINT IS DRY, OF COURSE, until you have the required amount of shine or sheen. For Jackboots we used two parts Humbrol Railway Enamels Black (semi-gloss) to half a part of GLOSS Black. Here again one can gently buff with a soft cloth to obtain a surface sheen or higher degree of polish.

Rifles and machine guns with metal parts are best painted overall MATT Black; this is allowed to dry thoroughly, then with an almost dry brush flick over the entire subject using Humbrol gunmetal colour. This will pick out detail, and in particular on machine guns, leave the fretted area on some barrels black against which the barrel proper in gunmetal shows this detail to advantage. For facial and skin colouring we use various combinations of whites, pinks, etc., but as colleague Bill Hearne will doubtless be covering that aspect of modelling figures in his articles, I prefer to leave this feature entirely to him!

Lastly, never mind whether your figure is to be part of an overall diorama or as a mounted individual soldier take time, use patience and all will be well.

Below left, AIRFIX Lee/Grant 1/76 scale Tank kit straight from the box with no embellishments. We based our model on an American Lee tank used in Operation Torch – the North African Landings – overall colouring is HUMBROL U.S. Olive Drab matt paint which, when dry, was given a stippled coat on an almost dry brush of HUMBROL Gunmetal colour, this picks out the rivet head and hatch detail, also giving the model the realistic metallic sheen so common to armour after a few days in combat. The gun barrel was drilled out with a rat-tail file, but for this job we would normally have used Jobbers drills; these are invaluable to the serious modeller as they can be purchased in a variety of sizes from any good ironmongers or hardware stores. A small pin vice or mini-drill should also be purchased at the same time. The uses for these tools being almost endless and a few shillings spent thus, will enable one to add considerable detail to any type of model. At right is the real Grant on show at the Tank Museum, Bovington, Dorset. It has a Fox insignia.





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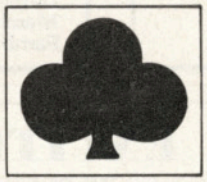

11th (AFRICAN) DIVISION (*Ace of Clubs on white background.*) Commander: Major General Wetherall. Formed in 1940 in East Africa, this Division was composed of one East African and one Nigerian Brigade. It was part of the force responsible for the defence of Kenya, but later joined the forces which advanced into Somaliland and broke the Italian Army there, pursuing the enemy 250 miles in three days and capturing Mogadishu. The Division later played an important role in the pursuit into Ethiopia.

(*continued from page 179*)

81st (WEST AFRICAN) DIVISION (*Black spider in a yellow circle.*) Commander: Major General Woolner. Made up of native troops from all the West African colonies, the Division was formed in Nigeria in early 1943 and despatched to India in August the same year. One brigade joined General Wingate's special forces, the remainder of the Division taking part in the final assault on Myohaung and the advance into the Arakan. As part of 15 Corps in the 14th Army, the Division assisted in the liberation of Mandalay and Rangoon.

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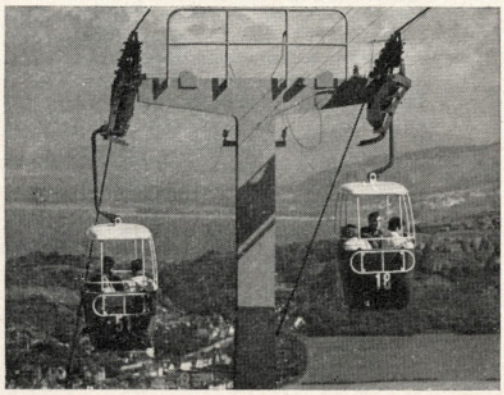

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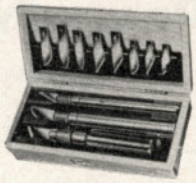

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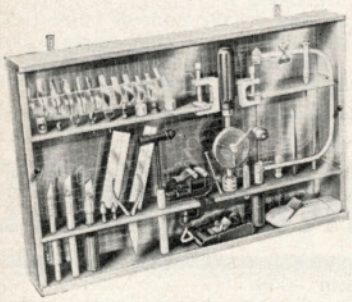

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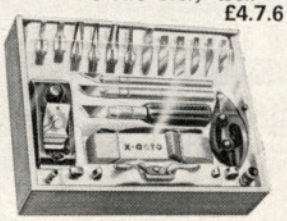

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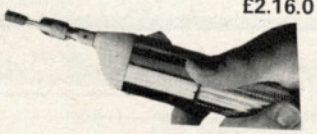

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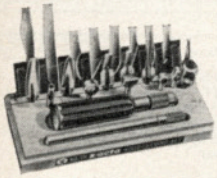

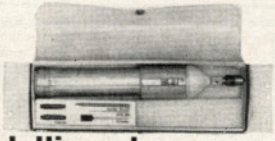

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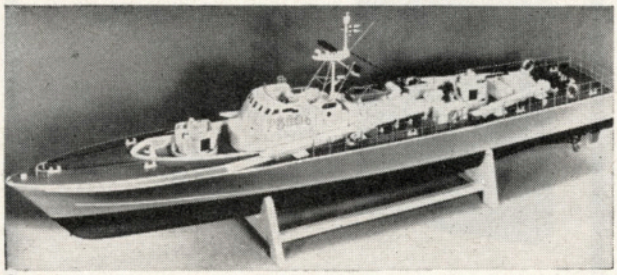

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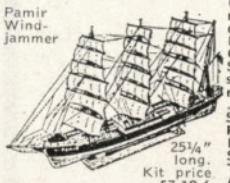

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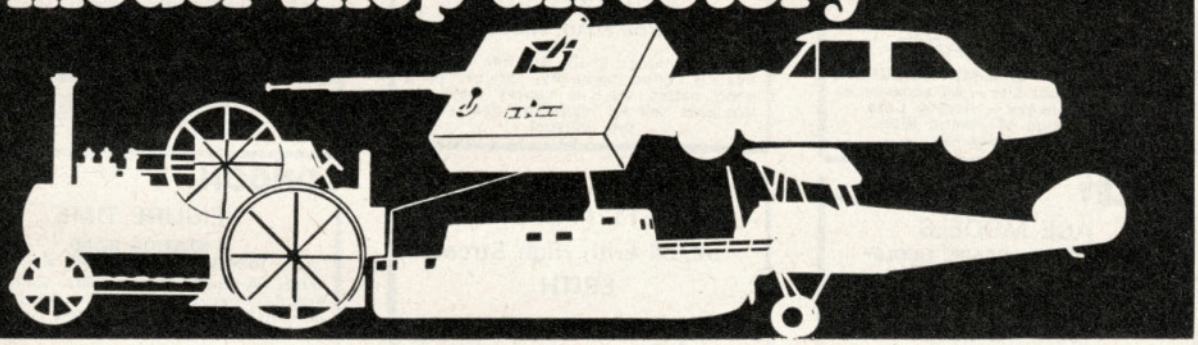

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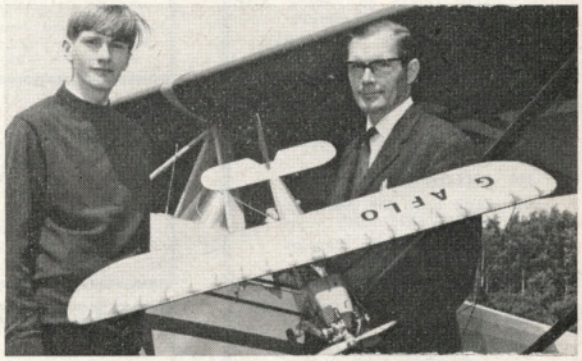

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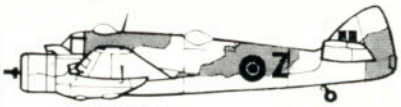

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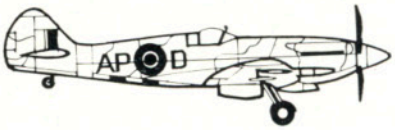

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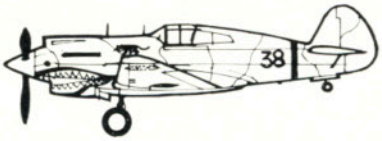

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BOEING B-17G	10/6
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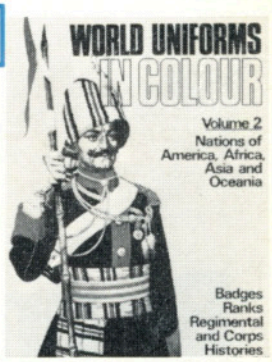

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1/25th Motorised

Russian T34 Tank	99/11
German Panther	99/11
German Jagd Panther Rommel	99/11
British Chieftain Tank	99/11
SU100 Russian Assault Gun	79/11

1/35th Motorised

T105 JS111 Stalin Tank	45/–
T55 Russian Tank	31/6
M41 Walker Bulldog Tank	25/11
T34 Russian Tank	25/11
British Chieftain Tank	45/–
Scorpion Armoured Car	16/11
Spider (Coventry) Armoured Car	16/11
German King Tiger Tank	45/–
German Hunting Tiger Tank	45/–
Saladin Armoured Car	18/11
M8 Armoured Car	18/11
SU100 Russian Assault Gun	25/11
French Archery Tank AMX 105	25/11
German Rommel Tank	31/6
French Napoleon Tank AMX 30	31/6
M48 Patton Tank U.S.A.	45/–
M4 Sherman Tank (U.S.A.)	31/6
German Leopard Tank	45/–
M36 Type B2 Destroyer Tank	31/6
German Panther Tank	45/–
German Rommel (Jagdpanther)	45/–

1/35 with two motors and remote control

German Leopard Tank	59/11
King Tiger	59/11
Hunting Tiger	59/11
Russian T10 JS111 Stalin	59/11
German Panther Tank	59/11
German Rommell Tank	59/11

1/55 Motorised. 12/3 each :–
M42 U.S.A. Hunter
SU57 Stalin
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1/35 German Army Tank Crew 3/–
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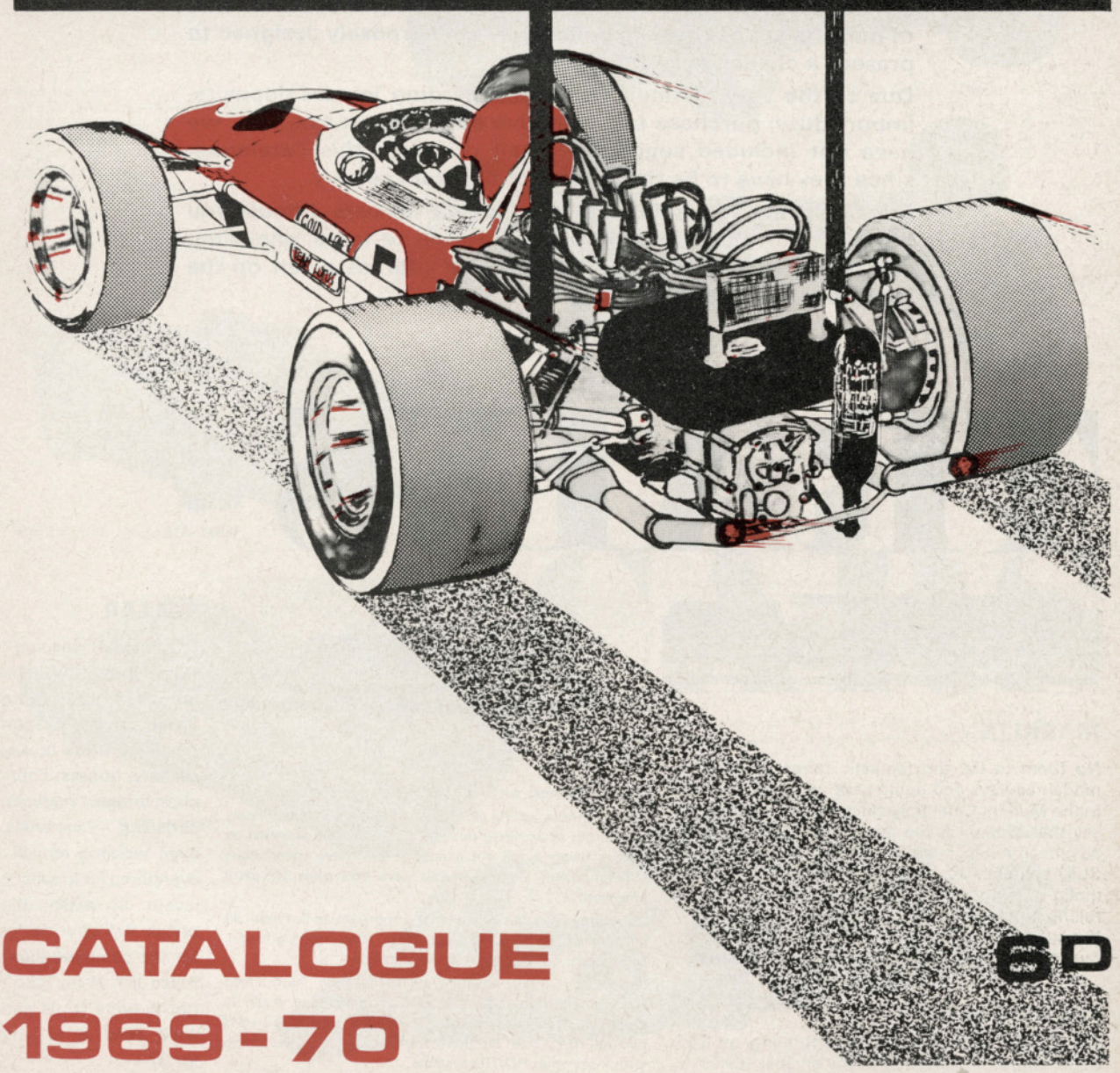
RIKO



CATALOGUE 1969-70

6D

We have great pleasure in presenting this, our 1969/70 RIKO catalogue, and we take pride in offering to you in the following pages a range of Model Kits of a quality and accuracy which will bring pleasure to all who appreciate the great hobby of building Model Kits.

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Due to the very difficult position regarding import deposits, import duty, purchase tax, selective employment tax, etc., we have not included suggested retail prices in this catalogue, since they have to be the subject of constant review.

Price Lists are available from your Local Stockists. Should you have difficulty in obtaining one, please write to us, enclosing a stamped, addressed envelope, at the address given on the back cover of this catalogue.

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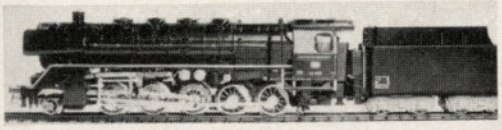

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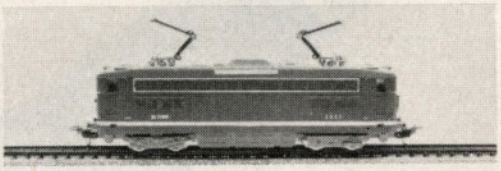

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TAMIYA RACE CAR KITS

RIKO

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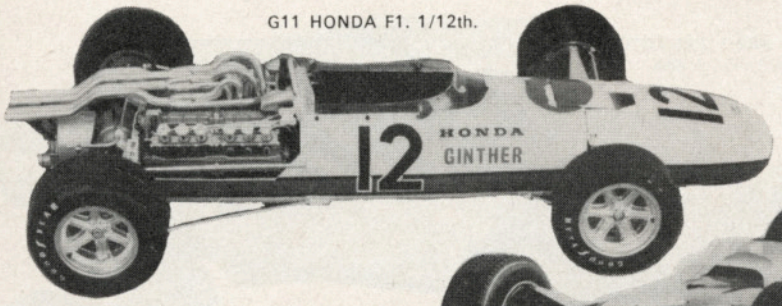
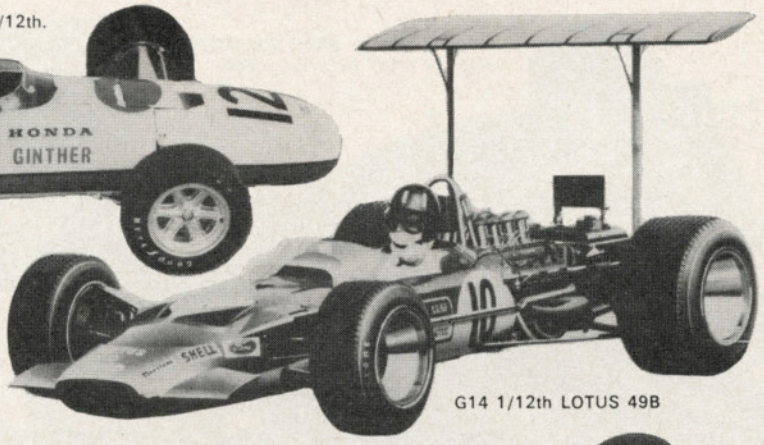
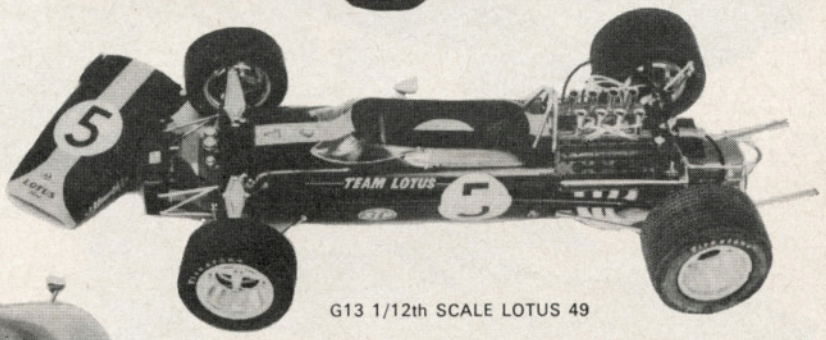


G11 HONDA F1. 1/12th.

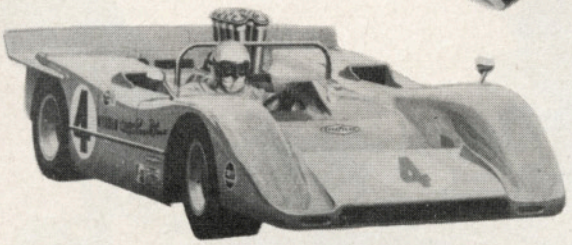


G14 1/12th LOTUS 49B

Also available:
G120 PORSCHE CARRERA 910
G121 CHAPARAL 2F
G122 NISSAN R381
G123 FORD 3-LITRE SPORTS
G124 LOLA MK. III
All approx. 1/30th scale.



G13 1/12th SCALE LOTUS 49



G102 1/18th MCLAREN M8A

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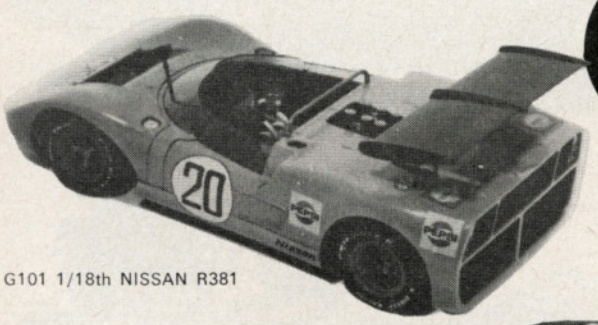
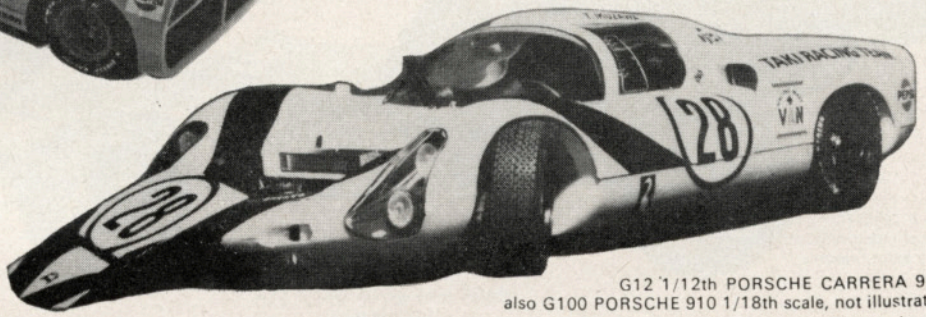


G101 1/18th NISSAN R381



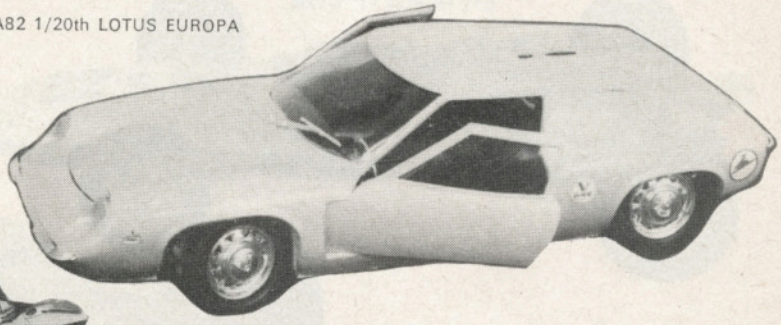
G12 1/12th PORSCHE CARRERA 910
also G100 PORSCHE 910 1/18th scale, not illustrated

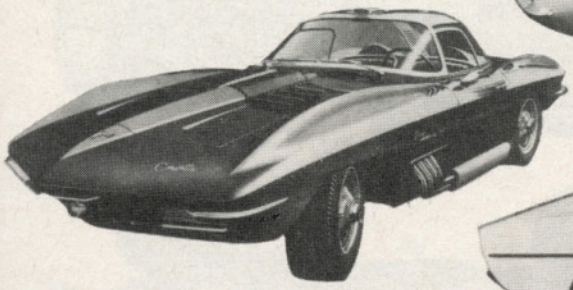
RIKO LARGE SCALE CAR KITS

ALL CARS ON THIS PAGE ARE MOTORIZED . . .

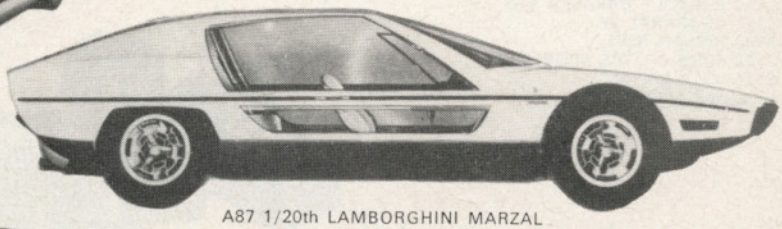
A82 1/20th LOTUS EUROPA

Also available
A80 1/20th LOTUS ELAN
A94 1/20th PORSCHE CARRERA 910

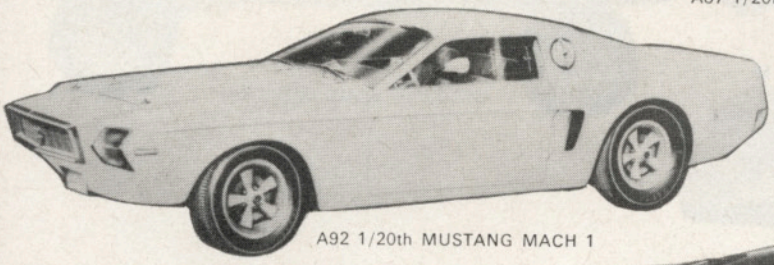




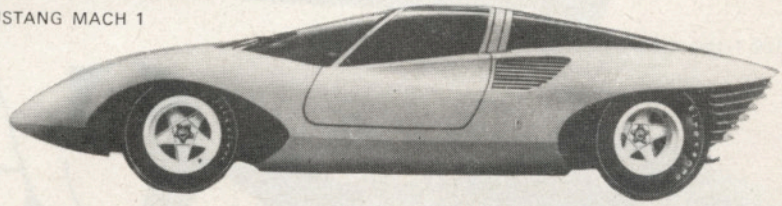
A78 1/20th MAKO SHARK



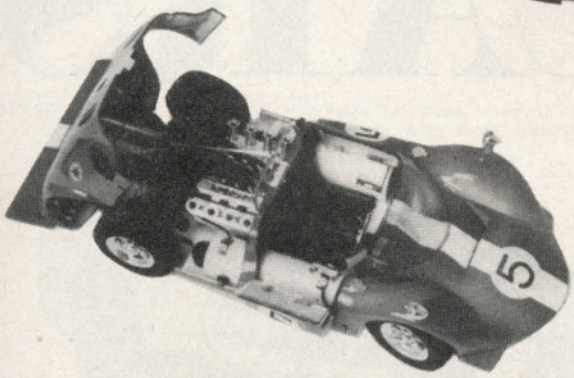
A87 1/20th LAMBORGHINI MARZAL



A92 1/20th MUSTANG MACH 1



A95 1/20th FERRARI P5



A85 1/20th TOYOTA 7
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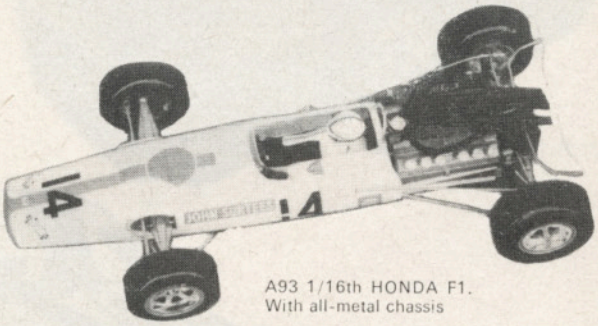
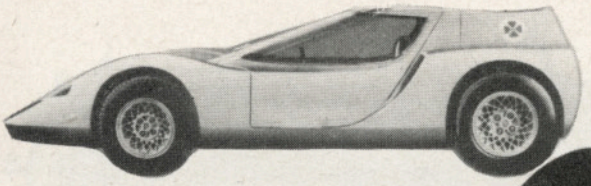


A93 1/16th HONDA F1.
With all-metal chassis

RIKO LARGE SCALE CARS

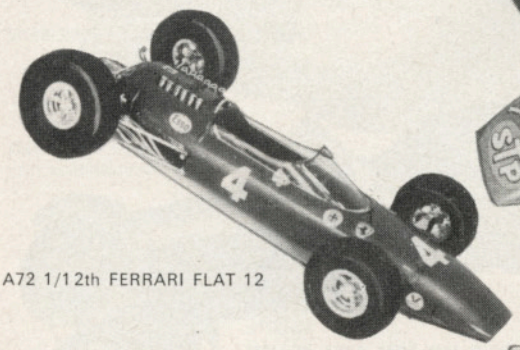
RIKO

ALL CARS ON THIS PAGE ARE MOTORIZED . . .

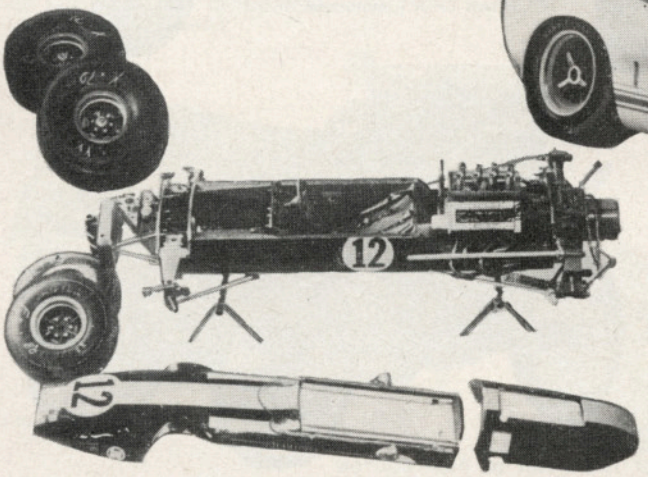


A90 1/16th ALFA-ROMEO SCARABEO

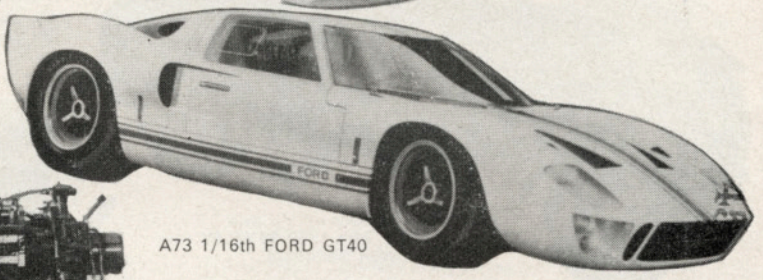
A69 1/12th STP TURBINE CAR



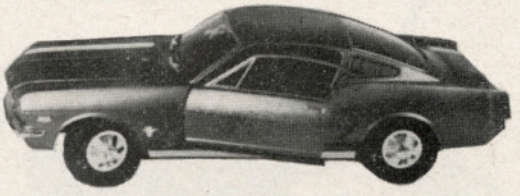
A72 1/12th FERRARI FLAT 12



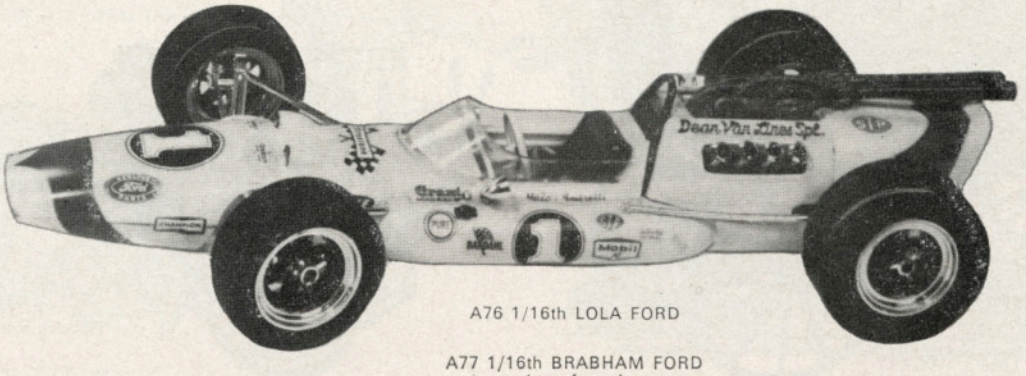
A70 1/12th LOTUS 33



A73 1/16th FORD GT40



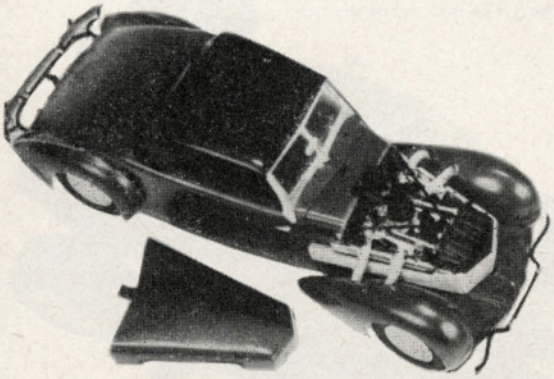
A71 1/12th MUSTANG



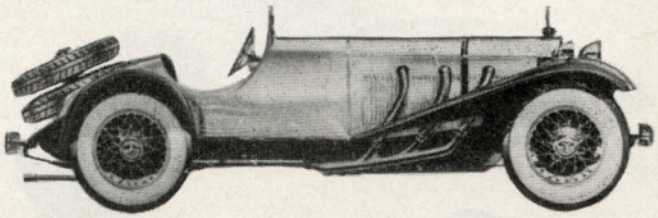
A76 1/16th LOLA FORD

A77 1/16th BRABHAM FORD
(not shown)

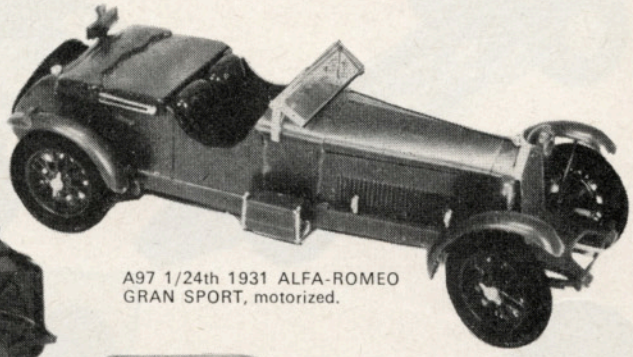
RIKO VETERAN AND VINTAGE CAR KITS



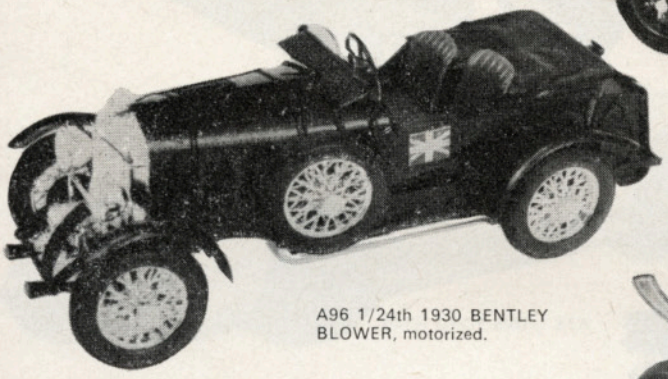
A98 1/24th 1937 CORD, motorized.



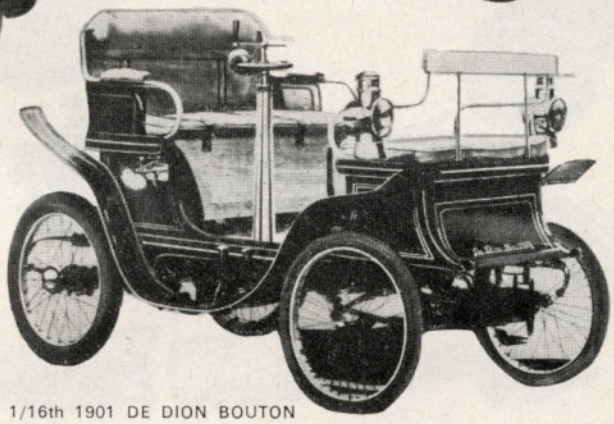
A99 1/24th 1929 MERCEDES BENZ SSK motorized.



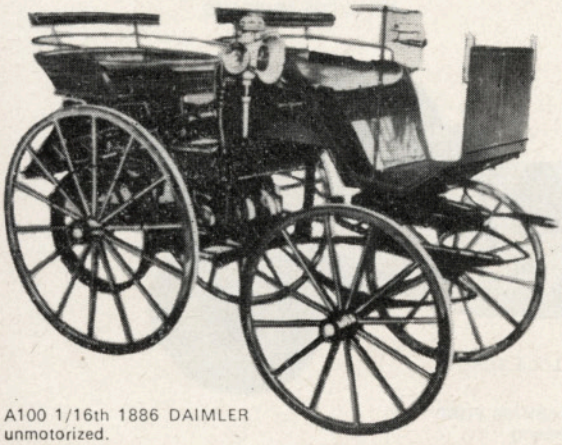
A97 1/24th 1931 ALFA-ROMEO GRAN SPORT, motorized.



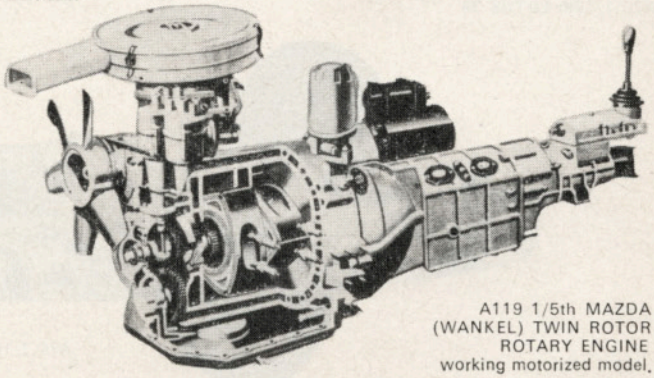
A96 1/24th 1930 BENTLEY BLOWER, motorized.



A101 1/16th 1901 DE DION BOUTON unmotorized.



A100 1/16th 1886 DAIMLER unmotorized.

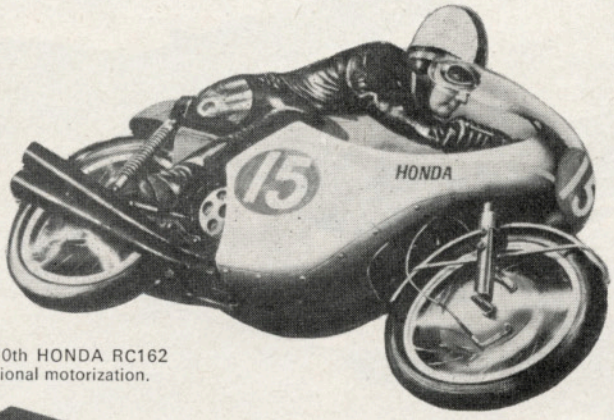


A119 1/5th MAZDA (WANKEL) TWIN ROTOR ROTARY ENGINE working motorized model.

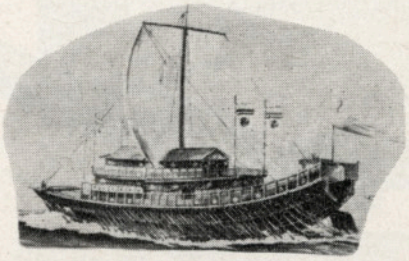
MOTOR CYCLES AND OTHER KITS

RIKO

ALL MOTOR CYCLES HAVE CHROME PARTS.

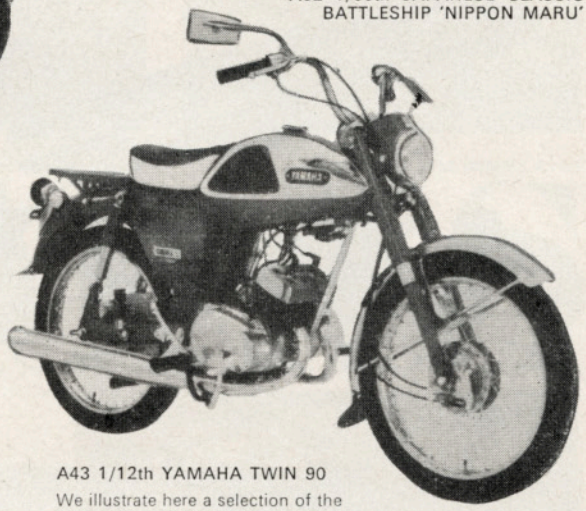


A40 1/10th HONDA RC162
with optional motorization.



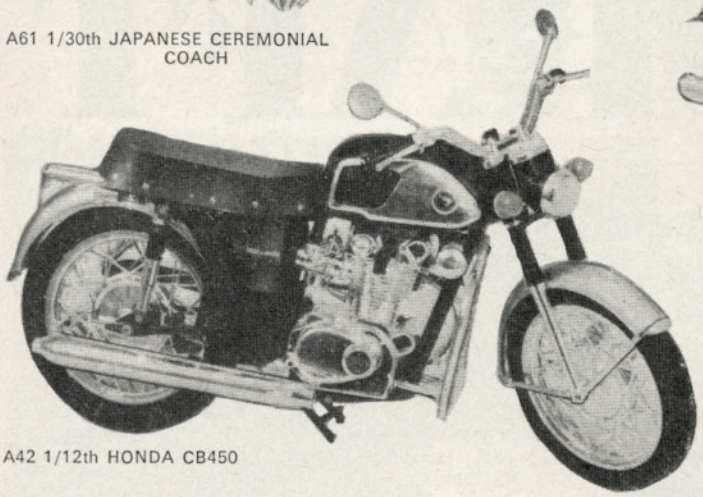
A62 1/50th JAPANESE CLASSIC
BATTLESHIP 'NIPPON MARU'

A61 1/30th JAPANESE CEREMONIAL
COACH



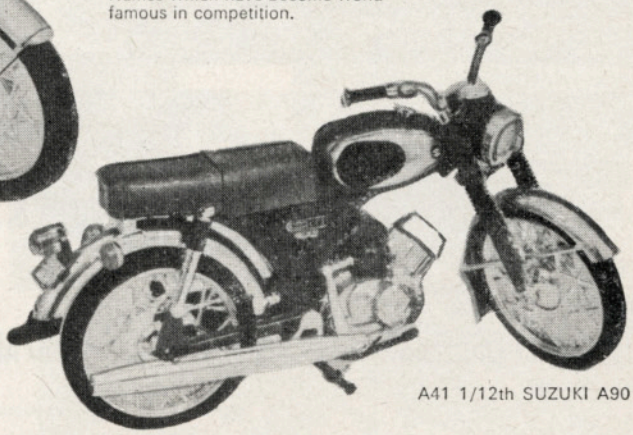
A43 1/12th YAMAHA TWIN 90

We illustrate here a selection of the best known Japanese motor cycles. Names which have become world-famous in competition.

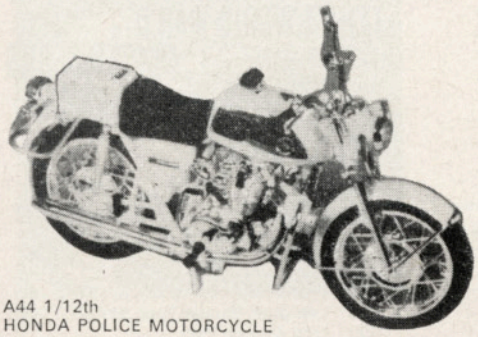


A42 1/12th HONDA CB450

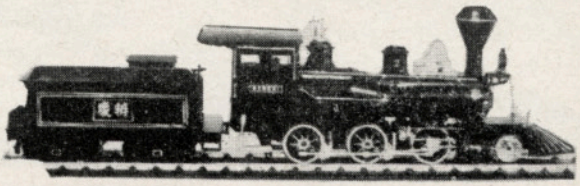
A19 1/30th HORSE-DRAWN TRAM (not shown)



A41 1/12th SUZUKI A90



A44 1/12th
HONDA POLICE MOTORCYCLE



A20 1/50th BENKEI OLD-TIME LOCOMOTIVE

G111 1/100th STARFIGHTER

G112 1/100th SAAB J35F DRAKEN

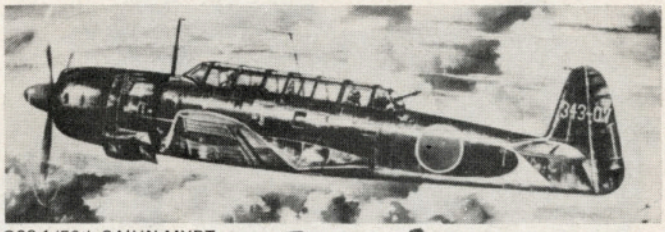
G107 1/100th DOUGLAS A-4E SKYHAWK

G108 1/100th B.A.C. LIGHTNING F-MK 6

G113 1/100th MIG 21 FISHBED F

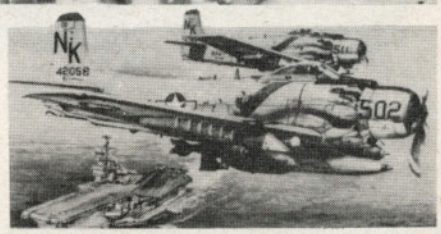
AIRCRAFT

A23 1/50th DOUGLAS A-4E SKYHAWK



G88 1/50th SAIUN MYRT

G94 1/72nd HAYATE



A33 1/70th SKYRAIDER

TAMIYA JET FIGHTERS 1/100 SCALE

Not Illustrated

G105 L.T.V. Corsair II
G106 Mig – Farmer – E
G109 Dassault Mirage 111C
G110 Fiat G. 91/R1/R4
G114 Saab AV 37 Viggen
G115 Bell UH–1B Iroquois Helicopter
G116 Grumman Intruder
G117 McDonnell Phantom F–4K/M

RIKO (FUJIMI) AIRCRAFT KITS

Not Illustrated

A21 1/50 Sud-Alouette Helicopter
A24 1/50 Westland Wasp Helicopter
A25 1/50 Huey Cobra Helicopter
A39 1/50 Iroquois Helicopter
A34 1/50 Northrop F5A Freedom Fighter
A35 1/50 Northrop F5B Freedom Fighter
A37 1/50 Northrop T38A Talon

A36 1/70 F–8D Crusader

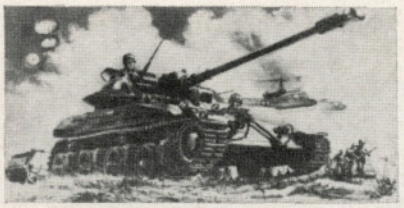
TAMIYA WORLD WAR II FIGHTER SERIES

Not Illustrated

G91 1/72 Zerosen
G92 1/72 Shoki
G93 1/72 Raiden
G95 1/72 Shinden
G80 1/50 Zero Fighter
G81 1/50 Shidenkai MIK 2 J
G82 1/50 Raiden
G83 1/50 Zero No. 63
G84 1/50 Shoki No. 2
G85 1/50 KI–61 Mien
G86 1/50 Hayabusa
G87 1/50 K1100 Type S Model 1A
G89 1/50 Dive Bomber Type 99
G90 1/50 Zerosen Pete

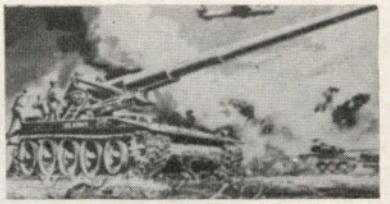
TAMIYA MOTORIZED TANKS 1/55th SCALE

RIKO

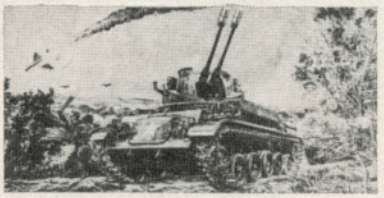


G23 T–92 DESTROYER

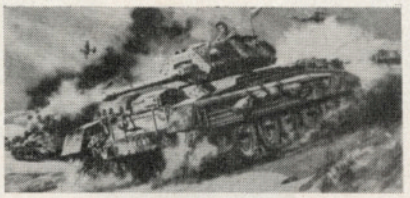
G22 U.S. M24 CHAFFEY



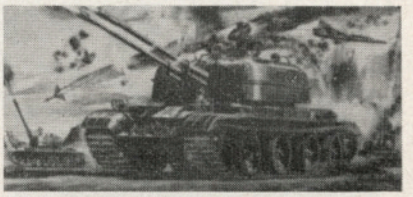
G25 U.S. T235 LONG TOM



G20 U.S. M42 HUNTER



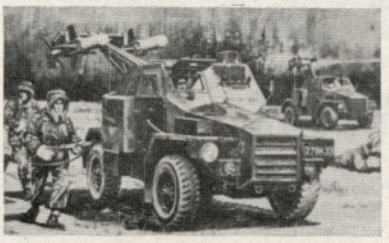
G24 CRUSADER



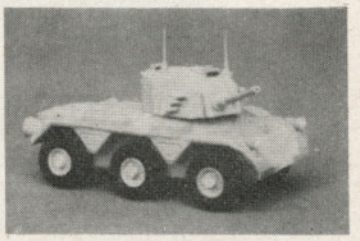
G21 RUSSIAN S.V.57 STALIN

TANKS

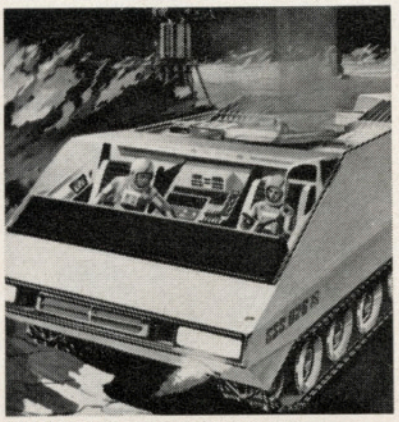
MOBILITY ON LAND!



*A1 1/40th BRITISH HORNET ARMOURED CAR KIT

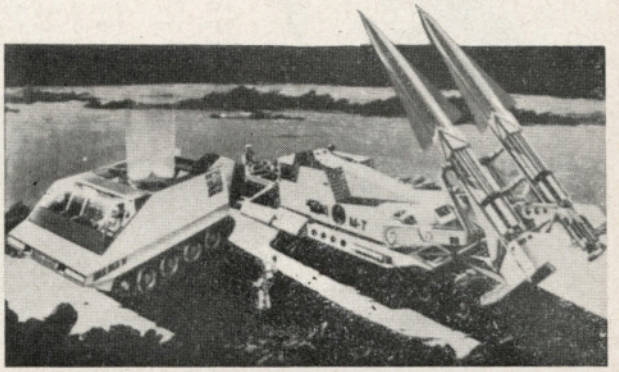


*A2 1/40th BRITISH SALADIN ARMOURED CAR KIT



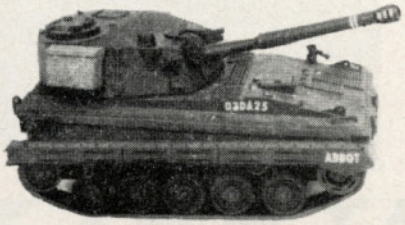
G64 SCIENCE FICTION APOLLO I

*with hidden clockwork motor.



G65 SCIENCE FICTION JUPITER 2

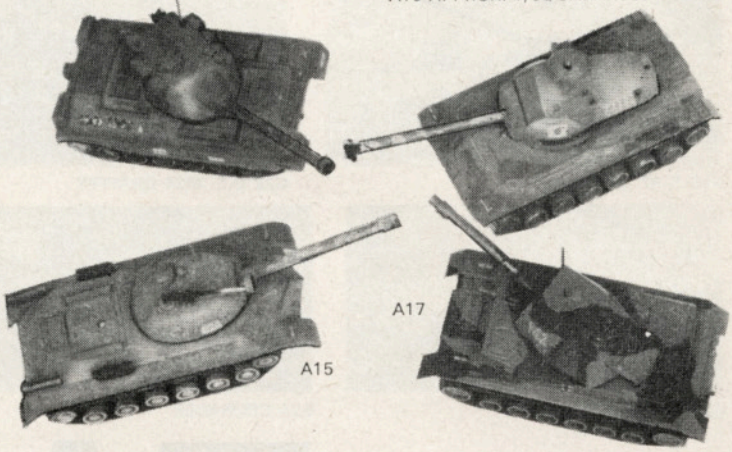
A14 APPROX. 1/50th U.S. ARMY PATTON TANK



A45 1/35th BRITISH ABBOTT TANK

A18 APPROX. 1/50 BRITISH CHIEFTAIN

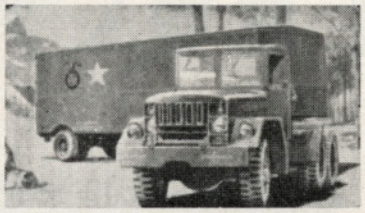
A16 APPROX. 1/50 JAPANESE TYPE 61



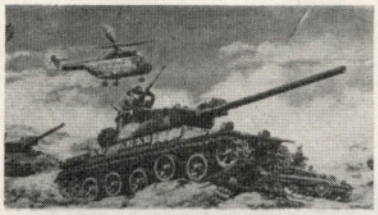
A15 APPROX. 1/50 RUSSIAN STALIN

A17 APPROX. 1/50 GERMAN ROMMEL

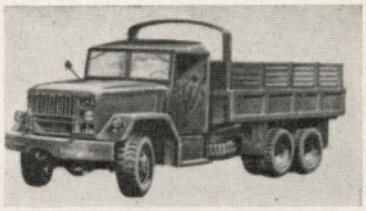
A13 APPROX. 1/50 GERMAN PANTHER (not shown)



A55 1/32 U.S. ARMY HIGHWAY TRAILER

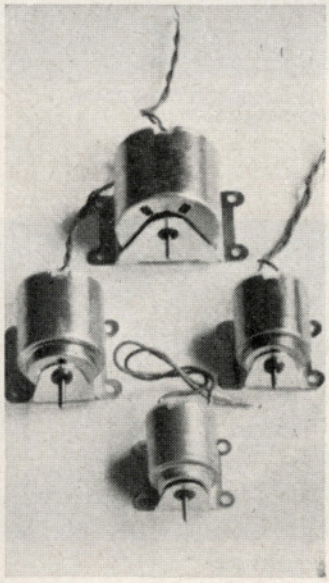


A12 FRENCH AMX 30 NAPOLEON



A54 1/32 U.S. ARMY ORDNANCE TRUCK

RIKO AND MABUCHI MOTORS



NEW CIRCULAR TYPE – Lead wires from reverse end

MR 14	1·5·–3 Volt motor		
MR 14S	1·5·–3	,,	Special
MR 26	1·5·–3	,,	
MR 26L	1·5·–3	,,	Special
MR 36	1·5·–3	,,	

STANDARD SHAPE MOTOR – Lead wires from top including fixing screw

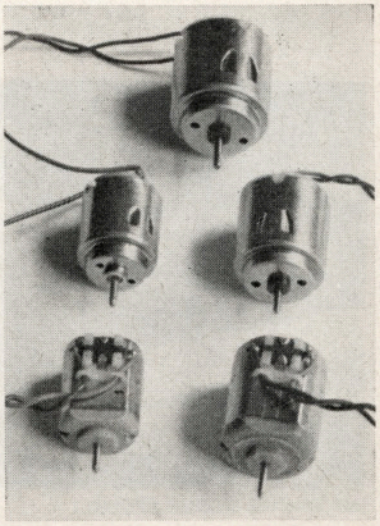
MF 13	1·5·–3 Volt motor
MF 13A	1·5·–3 Volt drive shaft both ends
MF 15	1·5·–3 Volt motor
MF 25	1·5·–3 ,,
MF 35	1·5·–3 ,,
MF B1	1·5·–3 Volt Aircraft motor

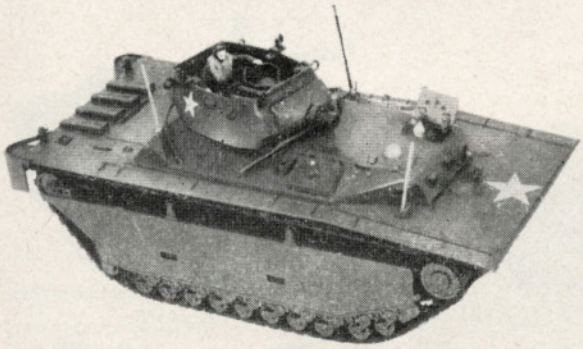
STANDARD MOTORS AS ABOVE BUT WITH MOUNTING BRACKETS

MF 13/B	1·5·–3 Volt motor
MF 13A/B	1·5·–3 Volt drive shaft both ends
MF 15B	1·5·–3 Volt motor
MF 25B	1·5·–3 ,,
MF 35B	1·5·–3 ,,
MF 55B	3 Volt motor

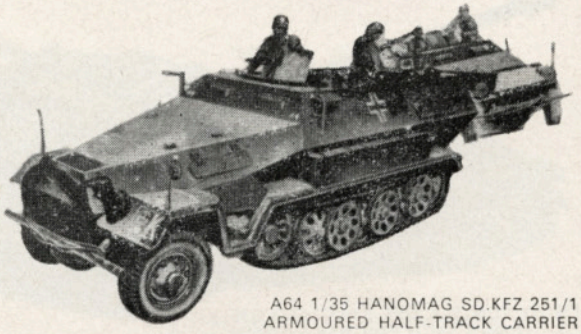
(MABUCHI)
New Circular type lead wires from reverse end, each with mounting bracket.

RE–14	1·5·–3 Volt motor
RE–26	1·5·–3 ,,
RE–36	1·5·–3 ,,
RE–56	1·5·–4·5 ,,

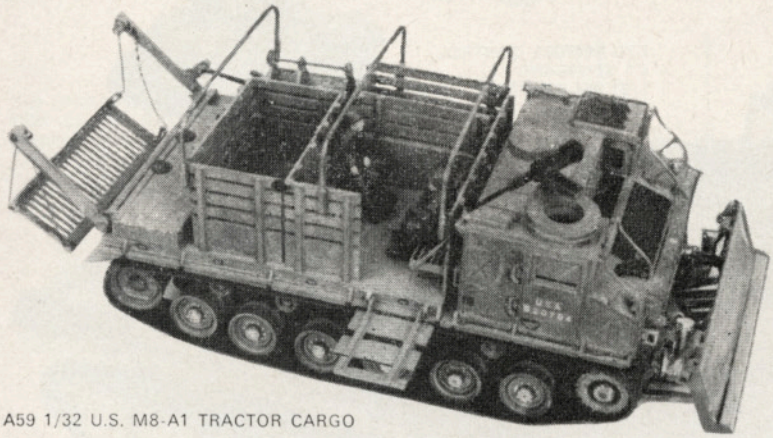




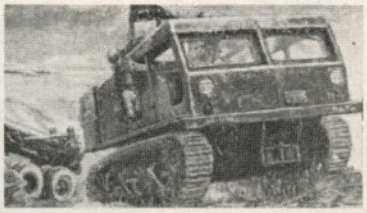
A58 1/35 U.S. ALLIGATOR L.V.T. (A) 5 LANDING CRAFT



A64 1/35 HANOMAG SD.KFZ 251/1
ARMOURED HALF-TRACK CARRIER

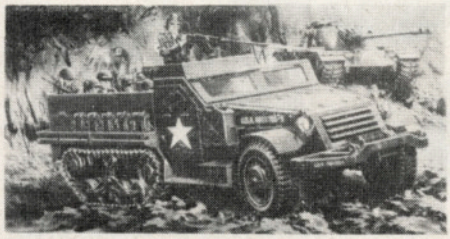


A59 1/32 U.S. M8-A1 TRACTOR CARGO

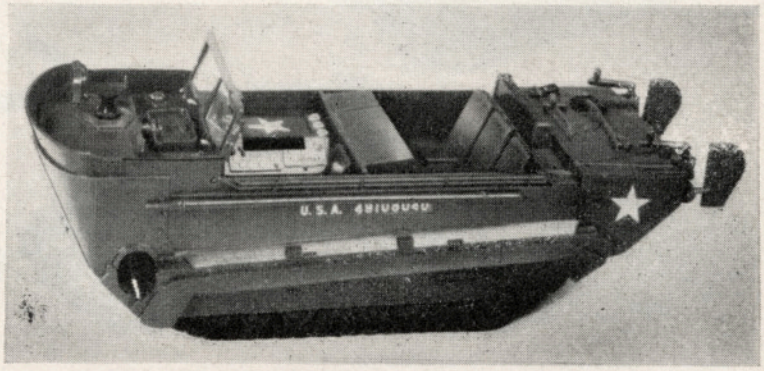


A46 1/32 U.S. M4 18-TON TRACTOR

A47 U.S. ARMOURED HALF-TRACK



A53 U.S. ARMY HALF-TRACK
PERSONNEL CARRIER



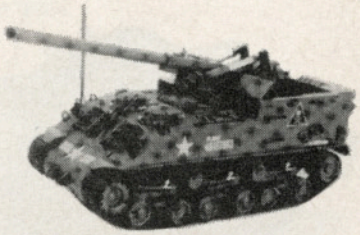
A56 1/32 U.S. ARMY AMPHIBIOUS M-29 WEASEL

RIKO

TAMIYA MOTORIZED LARGE SCALE TANKS

G71 REMOTE CONTROL. G2 STANDARD
1/21 P2KW3 GERMAN TANK (not shown)

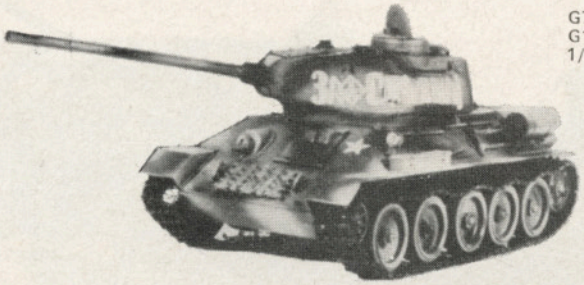
G72 REMOTE CONTROL. G43 STANDARD
1/21 GERMAN 75 mm ASSAULT GUN (not shown)



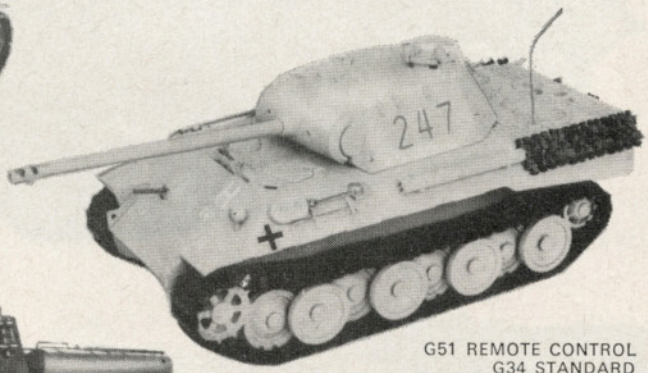
G50 1/21 BIG SHOT, available in remote control only.

REMOTE CONTROL G54. STANDARD G35
1/25 GERMAN JAGD PANTHER ROMMEL

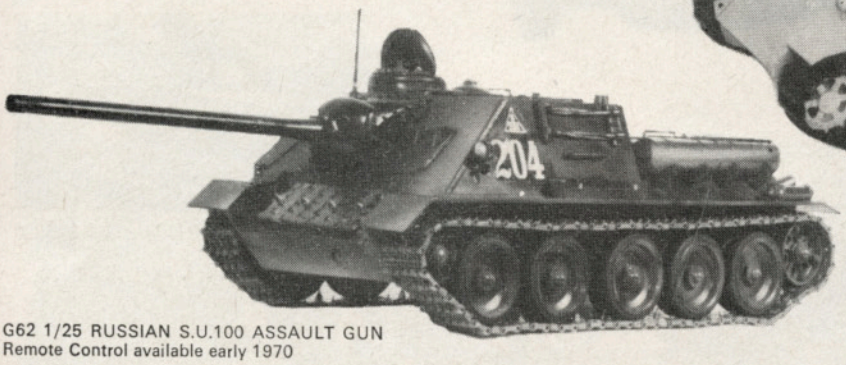
G70 REMOTE CONTROL
G1 STANDARD
1/21 M4 SHERMAN TANK



G33 1/25 RUSSIAN T34 Remote Control available early 1970

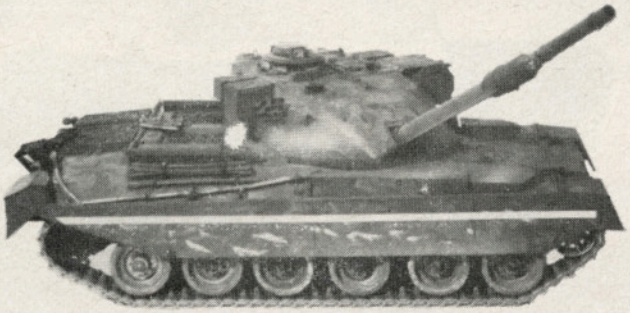


G51 REMOTE CONTROL
G34 STANDARD
1/25 GERMAN PANTHER



G62 1/25 RUSSIAN S.U.100 ASSAULT GUN
Remote Control available early 1970

TAMIYA BIG TANKS GIVE REALISM IN APPEARANCE AND ACTION!



G39 REMOTE CONTROL 1/25 BRITISH CHIEFTAIN TANK (G36 STANDARD)

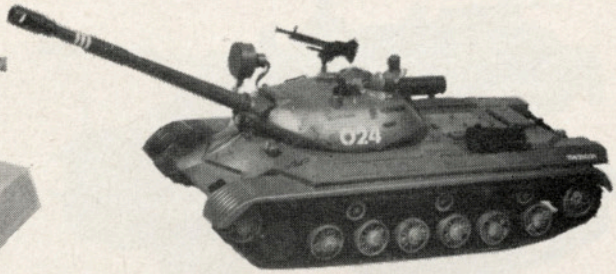
G44 1/21 155 mm M2 GUN, unmotorized. (not illustrated)

TAMIYA MOTORIZED TANKS 1/35 SCALE

RIKO

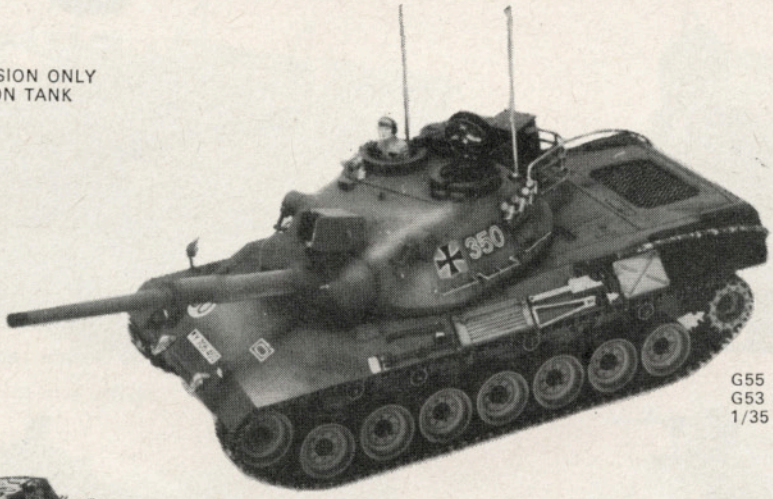
THE REMOTE CONTROL VERSIONS HAVE TWO MOTORS EACH DRIVING ITS OWN TRACK. THIS ALLOWS THE MODEL TO BE MANOEUVRED JUST LIKE THE REAL THING

G97 REMOTE CONTROL
G68 STANDARD
1/25 GERMAN PANTHER TANK

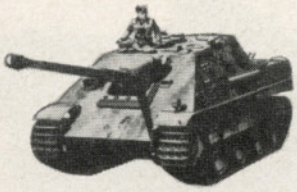


G96 REMOTE CONTROL ,G3 STANDARD
1/35 J.S. III STALIN TANK .

G49 STANDARD VERSION ONLY
1/35 U.S. M48 PATTON TANK
(not illustrated)

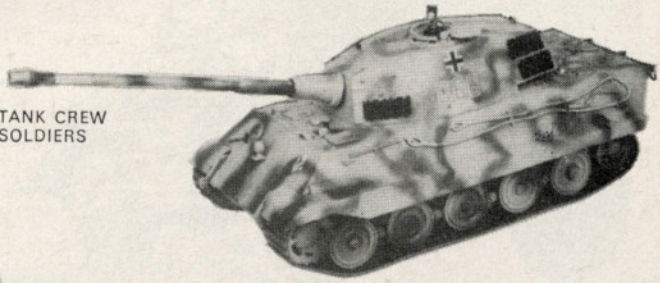


G55 REMOTE CONTROL
G53 STANDARD
1/35 LEOPARD TANK

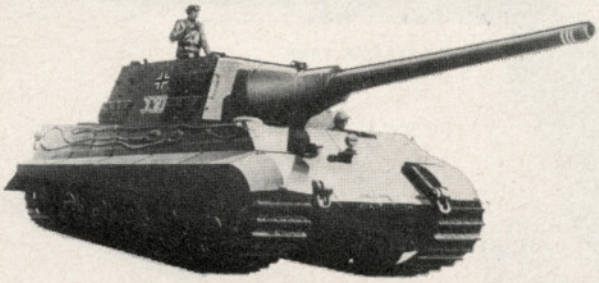


G98 REMOTE CONTROL
G69 STANDARD
1/35 GERMAN JAGD PANTHER
ROMMEL TANK

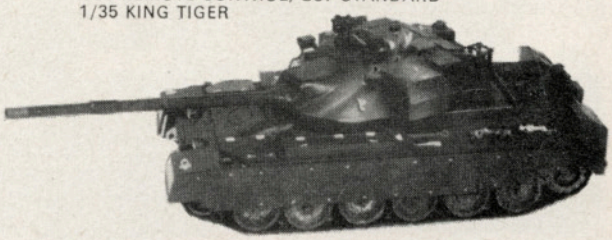
G118 1/35 GERMAN TANK CREW
G119 1/35 GERMAN SOLDIERS
(not shown)



G56 REMOTE CONTROL, G37 STANDARD
1/35 KING TIGER



G58 REMOTE CONTROL, G38 STANDARD
1/35 HUNTING TIGER

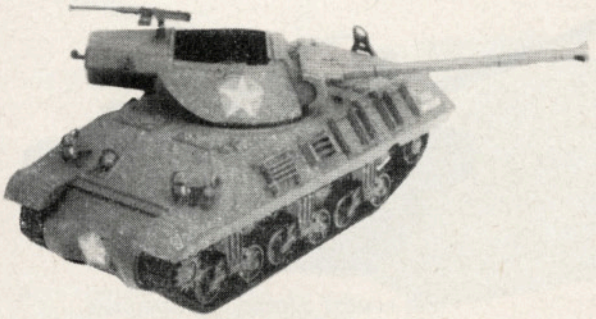


G17 STANDARD VERSION ONLY
1/35 CHIEFTAIN TANK

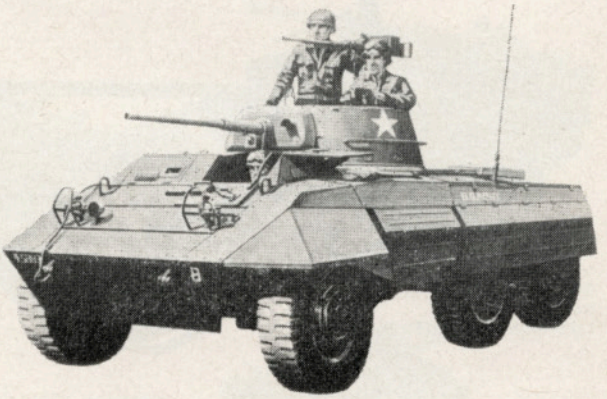
TAMIYA 1/35 SCALE ARMOURED CARS & TANKS

ALL MOTORIZED . . .

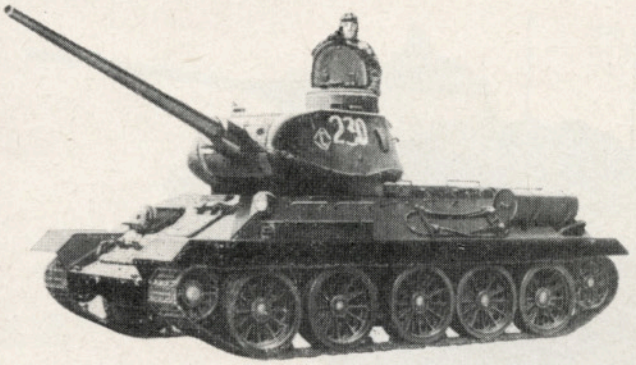
M.I. REMOTE CONTROL CONVERSION SETS ARE AVAILABLE FOR USE WITH THE FOLLOWING 1/35th SCALE TANKS: G3 STALIN TANK, G4 RUSSIAN TANK, G6 RUSSIAN TANK, G42 FRENCH TANK, G45 RUSSIAN ASSAULT GUN, G46 FRENCH TANK.



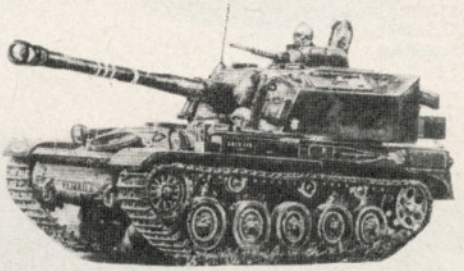
G57 1/35 M36 TYPE 2 U.S. DESTROYER TANK



G41 1/35 U.S. M8 ARMOURED CAR

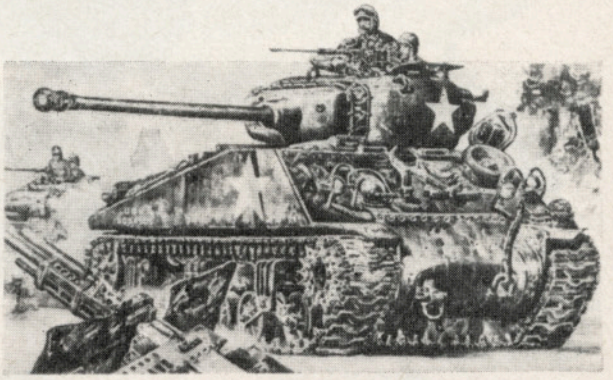


G6 1/35 T34 RUSSIAN TANK

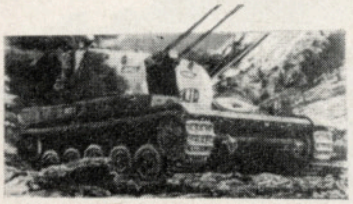


G46 1/35 FRENCH ARCHERY TANK AMX 105

G19 1/35 SPIDER (COVENTRY) ARMOURED CAR



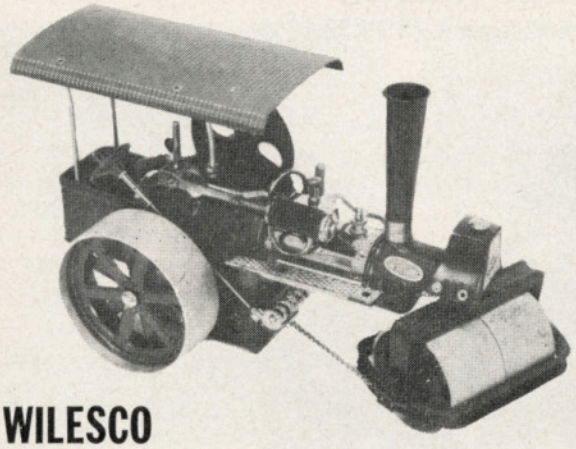
G52 1/35 M4 U.S. SHERMAN TANK

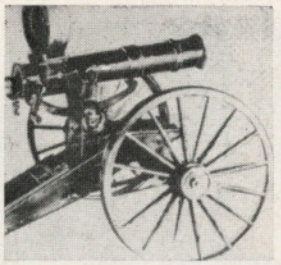


G42 1/35 FRENCH TWIN FLAK AMX DCA 30

Also available, but not illustrated:
G18 1/35 SCORPION ARMOURED CAR
G40 1/35 SALADIN ARMOURED CAR
G4 1/35 T55 RUSSIAN TANK
G5 1/35 M41 WALKER BULLDOG
G45 1/35 S.U.100 RUSSIAN ASSAULT GUN
G47 1/35 ROMMEL TANK

G48 1/35 FRENCH NAPOLEON TANK AMX 30





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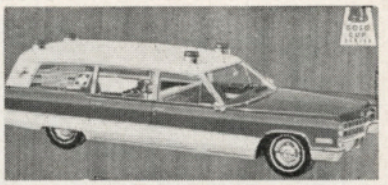
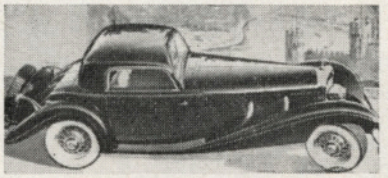


GC–500



GC–1135

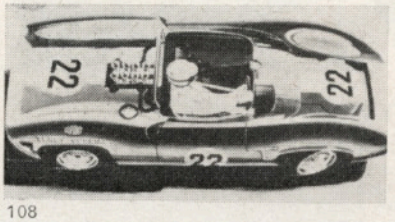
800

WILESCO

'OLD SMOKEY', LIVE STEAM, STEAM ROLLER, WITH DOUBLE-ACTING CYLINDER AND SLIDE VALVE. GEAR-DRIVEN. SOLID FUEL FIRED. WILESCO STATIONARY STEAM ENGINES

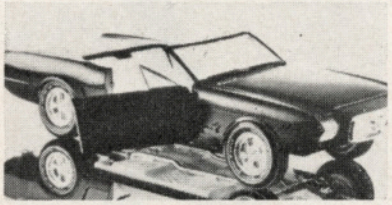
D10 D16 D20 D24 (not illustrated)

107



108

114



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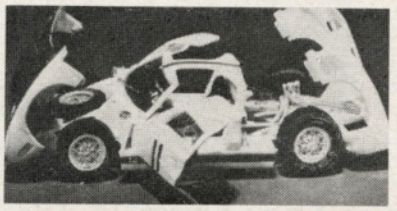


112

111

PALMER PLASTICS:
Historic Cannons De Luxe
27 24lb Naval gun kit.
28 Civil War field gun kit.
29 Gatling gun kit.
33 75mm Artillery piece kit.
34 Revolutionary field gun kit.

PALMER PLASTICS:
Educational Kits
800 Frog assembly and dissection kit.
110 Mastadon kit.
111 Brontosaurus kit.

I.M.C. CAR KITS – 25th Scale
103 Ford Cougar
104 Ford G.T.
105 '48 Ford Convertible.
106 '65 Lotus Ford Indy Winner.
107 Maverick s Little Red Wagon.
108 Lola T–70.
109 New Mustang II.
111 Ford Lotus STP Special.
112 Ford G.T. Mark II.
113 Ford G.T.P. 'J' car.
114 Volkswagen.
115 '48 Ford Coupe.
116 Chaparral 2E.
117 Ford G.T. Mark IV.

I.M.C. CAR KITS – 48th Scale
150 Surf Buggycar.

I.M.C. AIRCRAFT KITS
401 Executive Lear Jet, 1/48th scale.
402 Bell Jet Ranger, 1/32nd scale

I.M.C. BATTLE DAMAGE AIRCRAFT – 72nd EA.
481 Phantom 484 Skyraider
482 Sabre 485 Skyhawk
483 Thunderchief 486 MIG 210

JO-HAN CAR KITS – 25th scale
Gold Cup and Classic Series
GC–131 Cadillac V-16 (1931) Phaeton.
GC–234 Mercedes - Benz (1934) 500K-Special SP. Roadster.
GC–300 Chrysler Turbine Car - new version.
GC–431 Cadillac V-16 (1931) Cabriolet.
GC–500 Cadillac Ambulance.
GC–600 Cadillac Hearse.
GC–731 Cadillac Town Brougham (new).
GC–800 Haulin Hearse (new).
GC–964 Petty (1964 Plymouth) stock racer or funny car.
GC–1064 Ramchargers (1964 Dodge) A/ss drag racer or funny car.
GC–1135 Mercedes-Benz (1935) 500 K Roadster Limousine
5C–1269 1969 Cadillac Eldorado Hardtop.
6C–1369 1969 Oldsmobile '442' Hardtop.

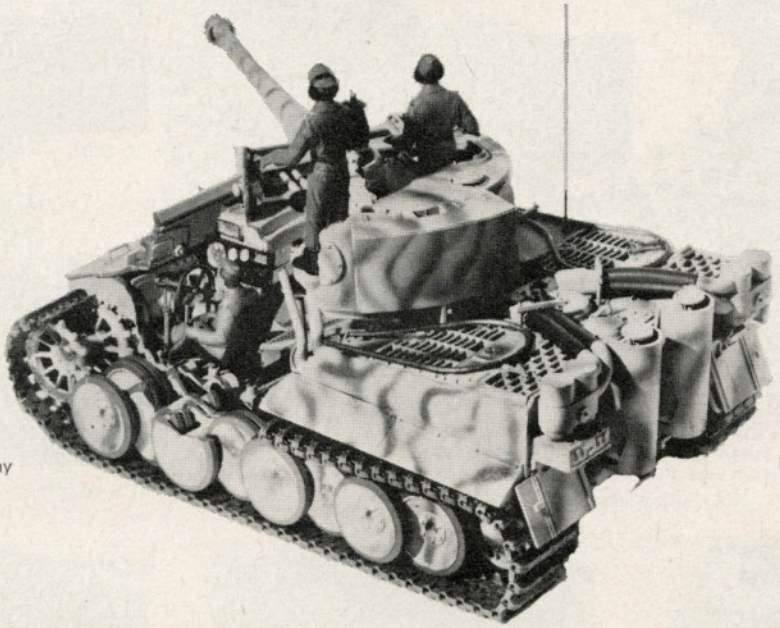
AMT SPACE SERIES KIT

STOP PRESS

TAMIYA have just announced that their 1/12th scale **Matra** Formula I racing car kit, including driver (G15) will be released in the United Kingdom during January 1970.

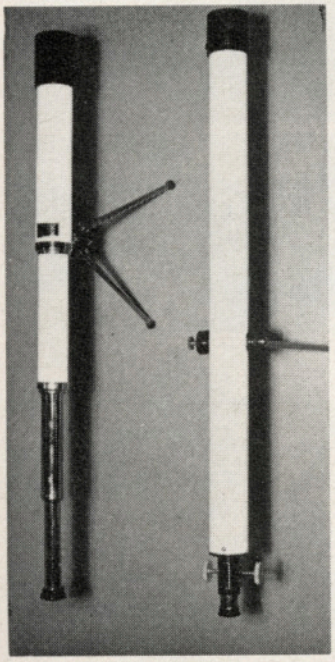
THE KIT OF THE YEAR BY TAMIYA!

1/25 Scale German Panzerkamfwagen VI Tiger 1 (SD.KFZ.181)



This picture shows a cutaway view to illustrate the interior detail, but the real model comes complete.

Full interior and incomparable exterior detail! It's THE kit you cannot miss! Late December release.



RIKO HIGH POWER TELESCOPES

2/3 5 x 30mm 2 Section Hand Telescope.
2/4 30 x 30mm 3 Section Hand Telescope.
2/5 40 x 40mm Telescope, Coated Lens and Tripod.
2/6 40 x 40mm Telescope, Coated Lens and Tripod with Micro adjustment.
2/7 40 x 40mm 3 Section Hand Telescope with Coated Lens and Tripod.
2/8 30 x 40mm Telescope with Tripod.
2/11 40 x 50mm 2 Section Telescope with Coated Lens and Tripod.
2/15 20 x 70 x 50mm Zoom Telescope with Coated Lens, Tripod and Micro adjustment.
2/16 10 x 40 x 40mm Auto Zoom Telescope, (motorized) with Coated Lens and Stand.

RIKO MICROSCOPES

1/1 100 x 200 x 300 x 3 Turret Metal Microscope (small size).
1/2 100 x 200 x 300 x 400 x 500 x 3 Turret Metal Microscope with two eye-pieces (small size).
1/4 100 x 200 x 300 x 3 Turret Metal Microscope in Wood Case (medium size).
115B/W 100 x 300 x 500 x 3 Turret Microscope in Wood Case (medium size).
119P 100 x 200 x 300 x 3 Turret Metal Microscope (large size).
1/5 100 x 200 x 300 x 500 x 4 Turret Metal Microscope in plastic carrying case (large size).
119 Y/L 100 x 200 x 300 x 600 x 4 Turret Metal Microscope with light in plastic carrying case (large size).
119 Z/L 100 x 300 x 500 x 750 x 4 Turret Metal Microscope with light. In plastic carrying case (large size).

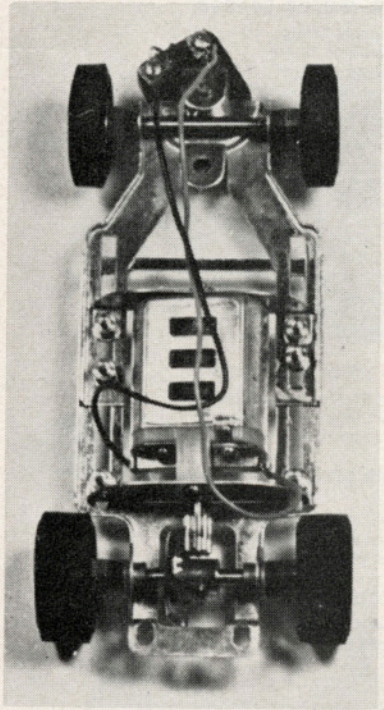
PREPARED SUBJECT SLIDES 12 DIFFERENT SLIDES TO EACH BOX

2/3422 12 Prepared textile fibre slides.
2/3423 12 Prepared plant slides.
2/3424 12 Prepared animal slides.

ACCESSORY SETS

3/102 Set for preparing and making slides.
3/260 Set for preparing making and staining slides.
3/250 Set for hatching your own brine shrimps including a pocket microscope with 50x magnification.

Please note all magnification sizes are approximate



COMPETITION SERIES KITS

RIKO 1/32nd KITS WITH VACUUM FORMED BODIES

Powered by Rikochet Mark 1 Motor – High Quality – all metal chassis – gears, etc.

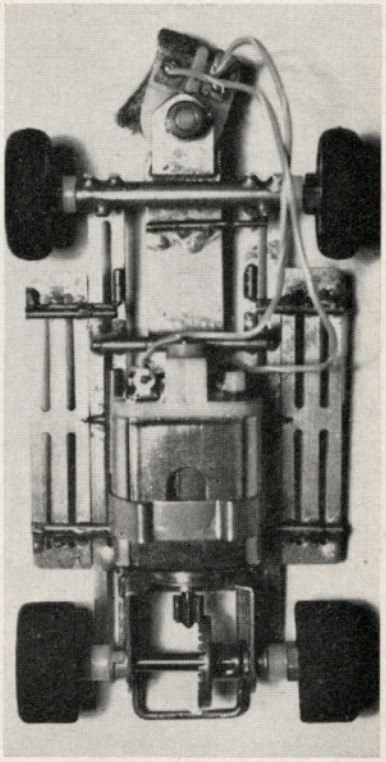
R650 FORD G.T. MK. IV
R651 FORD G.T.P. J CAR
R652 FORD CORTINA SALOON
R653 FORD MACH 2
R654 PORSCHE CARRERA 6
R655 FERRARI 330 P4
R656 ALAN MANN FALCON
R657 1967 SHELBY MUSTANG
R658 FORD GALAXIE SALOON
R659 CHAPARRAL 2F
R660 FORD ESCORT
R661 CAN-AM FERRARI P4
R662 ISO GRIFFO
R663 MUSTANG SALOON
R664 FORD MIRAGE
R665 MERCEDES 230 SL
R666 DODGE CHARGER
R667 RACING GROUP 5 ESCORT
R668 FORD 3-LITRE SPORTS
R669 HOWMET TX GAS TURBINE
R670 ALPHA ROMEO 33 KIT
R671 MCLAREN M8 A
R672 LOLA T70 GT
R673 MARCOS MANTIS
R674 LOTUS ELAN + 2
R675 LOLA T160
R676 FORD CAPRI
R677 GULF MIRAGE
R678 LOLA T162
R679 FERRARI 612

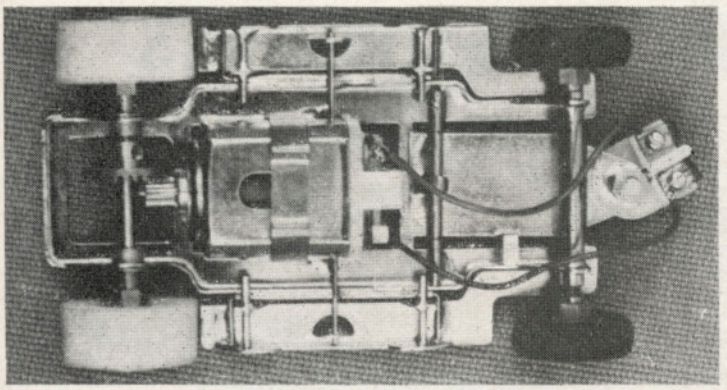
SUPER SERIES KITS

RIKO SUPER SLOT KITS 1/32nd SCALE

Special new type chassis with flexible side body mounts, new Rikowhip FT-16D ball race motor, sponge rear tyres, hard front tyres, brass crown gear. Independently rotating front wheels on a special split axle.

R1200 FORD GT MK IV
R1201 FORD GTP J CAR
R1202 FERRARI 330 P4
R1203 CAN-AM FERRARI
R1204 ISO GRIFFO
R1205 FORD MIRAGE
R1206 MERCEDES 230 SL
R1207 HOWMET TX
R1208 MCLAREN M8 A
R1209 LOLA T70 GT
R1210 MARCOS MANTIS
R1211 LOTUS ELAN + 2
R1212 LOLA T160





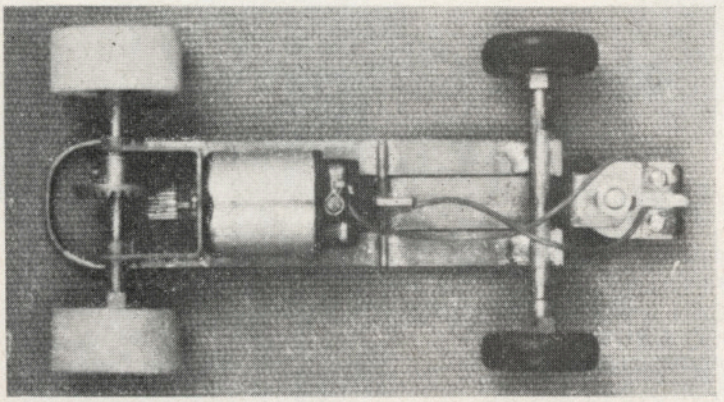
TROPHY SERIES KITS

1/32nd SCALE

Same wheels, tyres, etc. as in R 1200 SUPER kit series, but with R706 chassis and FT 16D ball raced motor! Fits any track – fantastic speed.

R1400 FORD GT MK IV
R1401 CAN AM FERRARI
R1402 MCLAREN M8A
R1403 MARCOS MANTIS
R1404 LOLA T 162
R1405 LOTUS ELAN +2
R1406 LOLA T 160
R1407 FORD MIRAGE
R1408 FORD GTP J CAR
R1409 HOWMET TX

SUPERB VALUE



FORMULA I CHASSIS KIT

R600 NEW DELUXE FORMULA I CHASSIS KIT WITH RIKOMINX HI-PERFORMANCE, FULL CIRCLE MOTOR, WIDE REAR SPONGES, INDEPENDENT ROTATING FRONT AXLE, PRECISION BRASS CONTRATE GEAR. FOR EXTRA VALUE ADD THE NEW RIKO BRASS EXTRALOW CHASSIS WITH SELF-WEIGHTED, MIDFULCRUM DROP ARM AND DE-LUXE SLOT GUIDE.

1/32nd SCALE

SPECIAL VALUE

MOTORS & MOTOR SPARES

R1000 Rikochet Motor 12 volt D.C.
R1002 Rikobomb Motor DO
R1004 Rikostreak Motor DO
R1010 Rikochet Mk II Motor DO
R1012 Rikobomb Super Ballbearing Motor 12 volt D.C.
R1014 Rikostreak Mk II Motor 12 volt D.C.
R1015 Rikowhip New FT 16D–2475 Ball Race Motor
R1016 Wildcat FT–26D Ball Race Motor
R1017 Rikominx
R5000 Brush Spares for Rikochet
R5003 Brush Spares for Rikoflash
R1000A Armature for Rikochet
R1000B End Bell for Rikochet
R1000M Magnet and Can for Rikochet
R1003A Armature for Rikoflash Mk I
R1013A Armature for Rikoflash Mk II
R1012A Armature for Rikobomb

INTERIOR TRIM & DRIVER

R647 For F1 Kits and Bodies
R648 For Large Saloon Kits and Bodies
R649 For Sports G.T. Car Kits and Bodies

RIKO 1/24th KITS WITH VACUUM-FORMED BODIES

R690 Mini-Cooper Kit
R691 Hillman Imp Kit
R692 Fiat 650 Kit

RIKO PRECISION SLOT KITS 1/32nd SCALE

Without Controller	With Controller
R632 Porsche 904	R632/S Porsche 904
R640 H–16 B.R.M.	R640/S H–16 B.R.M.
R641 Paxton Turbo Car	R641/S Paxton Turbo Car
R642 Harvey Aluminium Special	R642/S Harvey Aluminium Special
R643 Lotus Indy Wedge Kit	R643/S Lotus Indy Wedge

All Riko Kits will run on any track but *at least a 15 ohm* Controller must be used.

RIKO RANGE OF GEARS & PINIONS

Brass bevel Gears and Pinions for 5/64th Shafts to fit Rikochet, Rikowhip, Rikowildcat, Rikominx, Taylortuned Motors, Slotware Speed Six, Speed Seven, Mura Series Dyna Series Champion Series Gold Star Series, FT16, FT 16D, FT 13UO, FT26 FT 26D and Derivatives.

BEVEL GEAR AND PINION

R6M 2:1
R7M 3:1
R8M 3½:1
R9M 4:1
R10M 4½:1

PINION WITH SCREWS

R70M 8 T
R71M 10 T
R72M 12 T
R73M 14 T

BRASS BEVEL GEARS & PINIONS FOR 3/32nd SHAFTS

To fit Rikobomb, Rikobomb Super, Rikostreak Pitman 196B and 6001, FT36, FT36D and Derivatives.

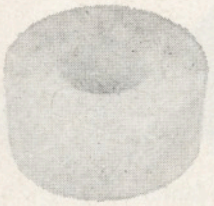
BEVEL GEAR AND PINION

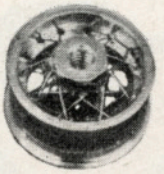
R6 2:1
R7 3:1
R8 3½:1
R 9 4:1
R10 4½:1

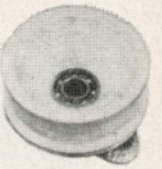
PINION WITH SCREWS

R70 8 T
R71 10 T
R72 12 T
R73 14 T

R7 and R8 may be supplied with recessed screws and keys

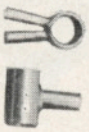






BRASS CONTRATE (with screws) & SPUR GEARS

R30	Contrate	26 T	R34	Contrate	34 T
R31		28 T	R35		36 T
R32		30 T	R36		38 T
R33		32 T	R37		40 T
R60	Spur Gear	32 T	R65	Spur Gear	42 T
R61		34 T	R66		44 T
R62		36 T	R67		46 T
R63		38 T	R68		48 T
R64		40 T			



STEEL INSTRUMENT CUT GEARS EACH WITH 10 & 12 TOOTH PINIONS (with screws)

For 5/64" Shafts			For 3/32" Shafts		
R38M	Contrate	52 T	R38	Contrate	52 T
R39M	Contrate	42 T	R39	Contrate	42 T
R40M	Contrate	36 T	R40	Contrate	36 T

STEEL INSTRUMENT CUT ANGLED SPUR GEAR FOR SIDELINER CHASSIS

R43M 52T Spur Gear with 11 and 12 teeth pinions for 5/64" Shaft.
R44M 47T Spur Gear with 10 and 11 teeth pinions for 5/64" Shaft.
R45M 42T Spur Gear with 9 and 10 teeth pinions for 5/64" Shaft.

STEEL CROWN GEARS WITH SCREWS

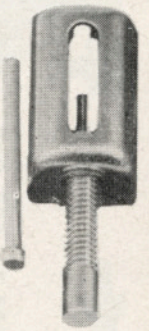
R13 32 T R14 24 T

BALLBEARINGS

R400 Set of 2 for rear wheels.
R401 Pair of Ballrace Front Wheels 1/32nd.
R402 Pair of Ballrace Front Wheels 1/24th.

RIKO RANGE OF CHASSIS FOR HOME AND CLUB CONSTRUCTORS

R700 1/32nd Pan-type adjustable for sports cars.
R701 Girder-type adjustable brass.
R702 Universal adjustable brass with swing pick-up.
R703 Adjustable tubular brass racing with swing pick-up..
R704 Adjustable tubular brass racing with swing pick-up.
R706 Special de luxe chassis for Rikowhip and FT 16D motors with flexible side body mounts.
R707 Special de luxe chassis for Rikowhip and FT 16D motors with flexible side body mounts.
R806 Adjustable brass for Rikobomb.
R51 Adjustable 1/32 or 1/24 tubular brass with swing pick-up for Rikochet and FT16
R51A As above but for Rikoflash, Rikowhip and FT 16D motors.
R51B As for R51 but for Rikostreak and FT 36D motors.
R52 Adjustable 1/32 or 1/24 tubular front end brass with swing pick-up for Pitman-type motors.
R53 As above but with fixed pick-up for Pitman-type motors.
R54 1/32 or 1/24 tubular brass with swing pick-up for Rikochet or FT16 motors.
R54A As above but for Rikostreak or FT 36D motors.
R55 Brass tubular sidewinder for Rikoflash Rikowhip and FT 16D motors,
R56 Brass tubular in line for Rikoflash Rikowhip and FT 16D motors,
R56A As above but for Rikostreak or FT 36D motors,
R500 Adjustable brass tubular sidewinder with fallaway pick-up arm for Rikoflash, Rikowhip, Rikostreak, Rikowildcat, Champion 517, Slotware Speed Six, Slotware Speed Seven, Dyna 16D's, Goldstar Series, Taylortuned 16D's and 26D's, FT 16D and FT 36D motors,
R502 Tubular de luxe brass with fallaway pick-up arm, all motors as for R500.
R555 1/24th de luxe chromed spider sidewinder chassis with swing pick-up for Rikowildcat, Slotware Speed Six, Taylortuned 26D's, FT 26D motors.



CHASSIS ACCESSORIES
RIKO BRASS TUBING

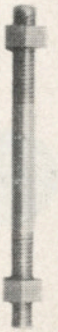
R300	Brass tubing 9¾"	I/D fits	1/32"
		O/D	1/16"
R301	Brass tubing		1/16"
		O/D	3/32"
R302	Brass tubing		3/32"
		O/D	1/8"
R303	Brass tubing		1/8"
		O/D	5/32"

CHASSIS ACCESSORIES – *continued*

R203 Brass Channel R204 Brass Channel
R304 Brass Rod 1/16" diameter.

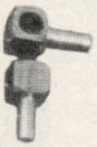
BRASS STRIP & SHEET

R310 16G Brass strip ¾" x 6".
R311 22G Brass sheet 3" x 6".



RIKOCARD – Toughened Polystyrene Sheet

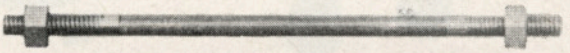
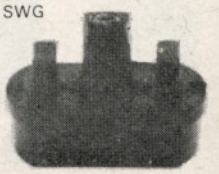
R340 10 Thou. White Rikocard
R341 20 Thou. White ,,
R342 20 Thou. Black ,,
R343 20 Thou. Red ,,
R344 20 Thou. Cream ,,
R345 20 Thou. Yellow ,,
R346 20 Thou. Green ,,
R347 20 Thou. Lightblue ,,
R348 20 Thou. Darkblue ,,
R349 30 Thou. White ,,
R350 30 Thou. Black ,,
R351 40 Thou. White ,,
R352 40 Thou. Black ,,
R353 60 Thou. White ,,
R354 60 Thou. Black ,,

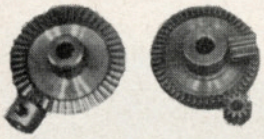
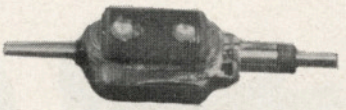
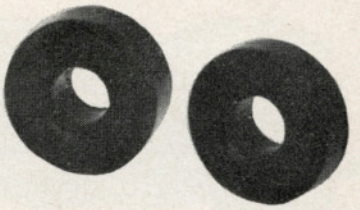


RIKO REWIND WIRE

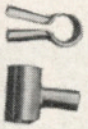
½oz of high melting point wire wound on plastic spools of a size to avoid kinking.

R360 28 SWG	R361 29 SWG	R362 30 SWG
R363 31 SWG	R364 32 SWG	R365 33 SWG
R366 34 SWG	R367 35 SWG	R368 36 SWG
	R369 37 SWG	

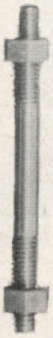




RIKO RANGE OF MOTOR MOUNTS



R111 Rikoflash, Rikowhip, Slotware Speed Seven, Taylortuned 16D, Goldstar 16D, Mura 16D, Dyna 16D, Mabuchi FT16D, FT13UO and Derivatives.
R112 Rikostreak, Mabuchi FT36D and Derivatives.
R113 Mabuchi FT36 and Derivatives.
R114 Rikochets, Mabuchi FT16 and Derivatives.
R115 With brackets for Rikostreaks, Mabuchi FT36D and Derivatives.
R116 With brackets for Rikoflash, Rikowhip, Taylortuned 16D's, Goldstar-Series, Slotware Speed Seven, Mura 16D's, Champion 16D's, Dyna 16D's, Mabuchi FT16D and Derivatives.
R117 Slot Guide Holder.
R118 Brass Slot Guide Holder and Collector Mount.
R119 Sidewinder Motor Mount for Rikowildcat, Slotware Speed Six, Mabuchi FT26, FT26D and Derivatives.
R120 With brackets for motors as in R119.
R121 Motor Mount set for Rikominx Motor.
R560 Special Motor Mount and Axle Holder for motors as in R119.

RIKO 'T' JOINTS FOR JOINING TUBES



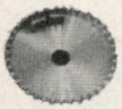
R128 4 'T' Joints to fit R302 and R300 tubes
R129 " R301 and 303
R130 " R302
R131 " R301 and R302
R132 'V' " R301 and R303
R210 Body Mounts (4 pieces).
R211 Body Mounts (4 pieces).
R807 Special plastic adaptor cap for motors as in R119, to fit all types chassis and motor mounts.

All parts fitting Rikochet, Rikobomb, Rikoflash and Rikostreak motors will also fit their Mark II equivalents.

RIKO INJECTION MOULDED BODY SHELLS

R748 1/32nd Scale Brabham F–1 (including chrome parts and driver).
R749 1/24th Scale B.R.M.
DECALS – Transfers
R8032 1/32nd Scale car and track
R8033 1/32nd Scale sponsors car

PAINT BRUSHES



RB1 Paint brush size 1
RB2 " " " 2
RB3 " " " 3
RB4 " " " 4
RB5 " " " 5
RB6 " " " 6
RB7 Card of 24 paint brushes, assorted sizes 1–6.
RB8 'O' soft squirrel hair brush.
RB9 'OO' soft sable hair brush.

RIKO ANGLE PIECES FOR JOINING TUBES

4 Angle pieces – with shank and hole fittings:

R97	1/32" (R300)	3/32" (R301)
R98	1/16" (R301)	3/32" (R301)
R99	3/32" (R302)	3/32" (R301)
R100	3/32" (R301)	5/32" (R303)
R101	3/32" (R302)	1/8" (R302)
R102	1/8" (R303)	5/32" (R303)
R103	3/32" (R302)	5/32" (R303)
R104	1/8" (R303)	1/8" (R302)

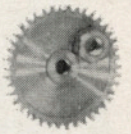
2 Angle pieces
R105 Shank hole fits 5/32" (R303) hole 7/32" 4 angle pieces.
R106 Shank hole fits 3/32" (R301) hole fits R16 Oilite Bearings.
R107 Front axle holder for 1/8" diameter axles.
R109 Tubular pick-up arm
R110 Tubular pick-up arm I/D fits 3/32"
O/D 1/8"

NOTE: Each size of Tube R300–R303 can be joined by the use of angle pieces and joints. These give every combination possible for the four sizes of tubing.
All parts are made to fit 1/8" axles.

RIKO WHEELS, AXLES & GENERAL ACCESSORIES ALUMINIUM WHEELS FOR 1/8" AXLES

R1	1/32nd	2 Front wheels
R1A		2 Rear wheels
R2	1/24th	2 Front wheels
R3		2 Rear wheels
R4		2 Front wire wheels
R5		2 Rear wire wheels
R811	1/32nd	2 Extra wide rear wheels $\frac{1}{2} \times \frac{1}{2}$
R177W	1/32nd	Extra wide rear wheels 13/32" wide.

RIKO RUBBER TYRES



R150	1/32nd	2 Front tyres for R1
R151		2 Rear tyres for R1A
R151A	1/32nd	Extra wide rear sponges 13/32" wide
R152	1/24th	2 Front tyres for R2 and R4
R152A		2 Front tyres for R2 and R4
R153		2 Rear tyres for R3 and R5
R153A		2 Rear tyres for R3 and R5
R154		2 Rear wide soft slicks
R155	1/32nd	2 Hard front tyres
		Budget Running Pack consisting of: 4 R1 wheels, 4 R149 tyres, 2 R17 axles and nuts
R157		Formula 1 wheel set: Front and rear wheels and tyres
R158	1/32nd	Sponge tyre 5/8" x 1.1/16"
R159	1/32nd	Sponge tyre $\frac{1}{2}$" x 1.1/16"
R160	1/32nd	$\frac{1}{2}$" rear wheel with ground-bonded sponge tyre.

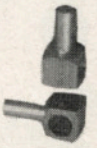
STAINLESS STEEL AXLES 1/8" DIAM. WITH NUTS

R17	1.3/4" Long	R21	2.3/4" Long
R18	2.3/16"	R22	3"
R19	2.3/8"	R23	3.1/4"

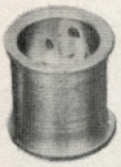
SPECIAL SPLIT FRONT AXLES 1/8" DIAMETER

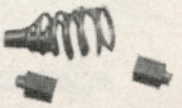
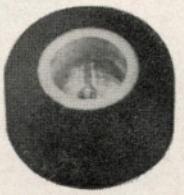
R217	2" Long	R221	2.3/4" Long
R218	2.1/4"	R222	3"
R220	2.1/2"		

OILITE BEARINGS – SLOT GUIDES – KNOCK OFFS – GEAR PULLERS, ETC.



R16	4 Oilite Bearings and Clips	I/D 1/8"
R804	Set of plastic spacers	I/D 1/8"
R28	2 Collars and screws	I/D 1/8"
R29	Collar and screws	I/D 1/8"
R800	Complete Slot Guide and Collar	
R801	De luxe Slot Guide set	
R27	Copper braiding and screws	
R24	4 Knock offs 1/24th – 3 prong	
R26	4 Knock offs 1/24th – 2 prong	
R224	Gear puller.	



LIST OF MAIN RIKO STOCKISTS

RIKO

BEDFORDSHIRE
Bedford
S. Brightman & Sons,
29 St. John's Street. Tel. 52320.
Bryan Scale Models,
74 Midland Road. Tel. 59652.
C. T. Gascoigne Ltd.,
101–103 Tavistock Street. Tel. 52596.
Luton
Aeromodels (Luton),
20 Gordon Street. Tel. 23182.
Luton Model & Timber Supplies,
1a Waldeck Road. Tel. 31471.
BERKSHIRE
Crowthorne
Models & Hobbies,
196 Duke's Ride.
Reading
Reading Model Supplies,
5 Chatham Street.
G. Sleep Ltd.,
22–24 Kings Road.
BUCKINGHAMSHIRE
Aylesbury
Bakers Stores,
21 Buckingham Street.
Slough
Slough Model Shop,
5 Public Market
CAMBRIDGE
Cambridge
W. Eaden Lilley & Co. Ltd.,
12 Market Street. Tel. 58822.
Renbro Ltd.,
30 Mill Road.
Chatteris
Roydes Toy & Model Shop,
30 High Street. Tel. 2478.
Wisbech
Prams & Toys of Wisbech,
20–26 Hill Street.
CHANNEL ISLES
The Model Shop,
1 Commercial Arcade,
Guernsey.
CHESHIRE
Alsager (Nr. Stoke-on-Trent)
'Pastimes',
6 Lawton Road.
Cheadle
G. & J. Webster,
6 Stockport Road.
Chester
J. C. B. (Chester),
Paddock Bend, Paddock Row,
The Precint. Tel. 20608.
The Model Shop (H. R. Smith),
76 Northgate Street.
Stockport
P. B. Carrier,
The Model Exchange,
162 Old Road, Heaton Norris,
Stockport, Cheshire.
The Model Shop,
280 Wellington Road South.
Tel. 061-480 5478.
CORNWALL
Falmouth
Mr. L. F. Barham,
28a High Street.
Helston
Eddy & Son (Helston) Ltd.,
21 Meneage Street.
Newquay
Newquay Exhibitions Ltd.,
The Signal Box,
7 Fore Street.
Wadebridge
Jennies Toy Store,
Polmorla Road.
DERBYSHIRE
Derby
Messrs. Gooderes (Derby) Ltd.,
38–40 Nightingale Road.
DEVONSHIRE
Exeter
Model Department,
Exeter's Pram & Toy Shop,
12 Sidwell Street.
The Model Shop,
9 City Arcade, Fore Street.
Plymouth
'Modelcraft',
113 Mayflower Street.
Torquay
Torbay Model Supplies Ltd.
(G. A. Savage),
59 Victoria Road, Ellacombe.
DURHAM
Durham
The Model Shop (Mr. Applegarth),
92 Claypath.
Jarrow
Maxwells,
3 Bede Burn Road. Tel. 897272.
South Shields
Maxwells,
139 Boldon Lane. Tel. 2483.
Maxwells,
7 Horsley Hill Square. Tel. 5397.
Sunderland
Maxwells,
12–14 Vine Place. Tel. 5308.
ESSEX
Barkingside
Page's of Barkingside Ltd.,
19 Broadway Market,
Fencepiece Road. Tel. 01-500 2007.
Braintree
A. Osborn & Sons Ltd.,
Little Square. Tel. 210.
Brentwood
Cullis & Son Ltd.,
14 Ongar Road.
Buckhurst Hill
Tots 'N' Toys,
17 Queen's Road. Tel. 01-504 8550.
Chelmsford
Chelmsford Model Co. Ltd.,
204 Moulsham Street. Tel. 52553.
Clacton-on-Sea
Toyland of Clacton,
Odeon Building,
West Avenue. Tel. 24319.
Colchester
Kay & Lampon Ltd.,
65 Crouch Street. Tel. 70117/8.
Williams & Griffin Ltd.,
High Street. Tel. 71212.
Dagenham
Arnolds Model Shop,
21–23 Broad Street Market.
Tel. 01–592 4921.
Epping
Hancock & Smith,
55 High Street. Tel. 2843.
Frinton-on-Sea
Pits Stop,
117 Connaught Avenue. Tel. 4020.
Grays
Model Mecca
79 High Street.
Tel. Grays Thurrock 76134.
Harlow
Richard Blanks Ltd.,
7 Adams House, Town Centre.
Tel. 24205.
Hornchurch
Halls Toys & Models,
7 Tadworth Parade, Elm Park.
Tel. 46561.
Ilford
Aviacolour
466 Eastern Avenue,
Gants Hill. Tel. 01-554 9142.
Brown & Geeson Ltd.,
777 High Road, Goodmayes.
Tel. 01-599 3001.
Toyland,
168 High Road. Tel. 01-478 0134.
Leigh-on-Sea
Moore Models,
1615 London Road.
Tel. Southend 76202.
Wings & Wheels,
1472–1476 London Road.
Tel. Southend 79035.
Loughton
Venture Models,
3 York Hill. Tel. 01-508 4432.
Romford
Kenistons,
51 High Street. Tel. 45100.
Southend-on-Sea
Hobby Store Ltd.,
359 Chartwell Square,
Victoria Circus. Tel. 67545.
Upminster
Roomes Stores Ltd.,
Station Road. Tel. 50080.
Westcliff-on-Sea
Essex Models & Hobbies,
620 London Road.
Tel. Southend 31595.
FLINTSHIRE
Rhyl
Pooles,
Queen Street.
GLAMORGAN
Caerphilly
J. C. Lawrence Ltd.,
79 Cardiff Road. Tel. 3671.
Cardiff
The Model Shop,
9 Mill Lane. Tel. 22247.
Bud Morgan,
Model Aircraft Specialist,
22 Castle Arcade. Tel. 29065.
Swansea
Redana's Model Shop,
226 Oxford Street.
GLOUCESTERSHIRE
Bristol
Mr. R. Clark,
40 Gloucester Road, Bristol 7.
Model Highways,
85 Gloucester Road, Bristol 7.
The Model Shop,
51 Colston Road, Bristol 1.
HAMPSHIRE
Aldershot
Concorde Models,
134 Victoria Road.
Bournemouth
R. F. Austin,
156 Seabourne Road, Southbourne.
Christchurch
Roberts,
3 Church Street.
Fareham
G. M. Bunce & Co. Ltd.,
206 West Street. Tel. 4136.
Farnborough
Models & Hobbies,
216 Farnborough Road.
Fleet
Fleet Toys,
173 Fleet Road.
Portsmouth
Robin Thwaites Ltd.,
28 Arundel Street.
Southampton
Elliotts Camera Craft,
31 Queensway.
HERTFORDSHIRE
Bishop's Stortford
Daynes & Co.,
2 Bridge Street. Tel. 2824.
Harpenden
Rolts Cycle & Pram Stores,
72 High Street. Tel. 4095.
Hemel Hempstead
Taylor & McKenna Ltd.,
203 Marlowes. Tel. 53691.
Letchworth
A. J. Haddow Ltd.,
The Wynd. Tel. 3615.
Potters Bar
Baldwins,
27 The Broadway,
Darkes Lane. Tel. 52620.
Royston
H. C. Green,
25 High Street. Tel. 3270.
St. Albans
Bold & Burrows Ltd.,
19–23 Chequer Street. Tel. 59234.
Stevenage
Stevenage Hobbyshop,
4 Park Place. Tel. 51713.
Watford
The Hobby Centre,
53 Market Street. Tel. 41743.
Welwyn-Garden-City
H. A. Blunt & Sons Ltd.,
38 Fretherne Road.
HUNTINGDONSHIRE
Huntingdon
Ockendens,
21 Chequers Court.
St. Ives
Handicrafts,
18 Bridge Street. Tel. 2337.
ISLE OF MAN
Castletown
Bunnies Model Shop
10 Arbory Street. Tel. 3347.
Douglas
Bunnies Model Shop,
25 Nelson Street. Tel. 4147.
ISLE OF WIGHT
Shanklin
The Sports Shop,
74 Regent Street.
KENT
Bexleyheath
E. & L. Woodruff,
245 Broadway. Tel. 303-1184.
Bromley
Ivan Ward Ltd.,
75 Mason's Hill.
Wheatleys Cycles,
30 London Road.
Chatham
Le Core Bros.,
373 High Street.
Erith
Derrett Toys Ltd.,
52 High Street. Tel. 32339.
Gillingham
Bakers Models Shop,
14 Canterbury Street. Tel. 0634-51917.
Gravesend
W. G. Shadick,
166 Windmill Street. Tel. 2285.
Maidstone
Hubble & Freeman,
23 Gabriels Hill. Tel. 58597.
Model Shop Maidstone,
19–23 Upper Stone Street.
Tel. 0622-51719.
Orpington
Orpington Model Centre,
49 High Street.
Ramsgate
Kingcraft Models,
136 High Street.
Rochester
Le-Core Models,
264 High Street. Tel. Medway 42164.
Sidcup
D. & T. Models,
16 Wellington Parade,
Blackfen Road. Tel. 303-8484.
Sittingbourne
Beaney's Models,
55 West Street.
West Wickham
Hobbytime (Kent's Model Shop),
5 Ravenswood Crescent.
LANCASHIRE
Ashton-under-Lyne
Ashton Model Supplies,
201 Old Street.
Blackburn
Mercers of Blackburn,
38–40 Northgate. Tel. 52701.
Blackpool
Hobbycrafts,
12 Tithebarn Street,
Poulton-le-Fylds.
Lancaster
The Model Shop (M. G. Walmsley),
8 China Street.
Liverpool
Crosby Model Shop,
63 Coronation Road, L'pool L235RE.
Precision Model Engineering Co. Ltd.,
92 Bold Street,
Liverpool 1. Tel. 051-709 8039.
Manchester
Beatties of London,
28 Corporation Street.
Tel. Blackfriars 0229.
The Model Shop,
7–13 Bootle Street (Off Deansgate),
Tel. 061-834 3972.
Nelson
The Model Shop (Nelson) Ltd.,
57 Railway Street.
Preston
Thomas Mears Ltd. (Mr. M. Mears),
14–15 Fishergate, PR1 3NN.

LIST OF MAIN RIKO STOCKISTS

Harry Welch Ltd.,
85 Church Street. Tel. 56121.
Warrington
R. Ward, The Riko Corner,
64 Buttermarket Street. Tel. 34315.

LEICESTERSHIRE
Hinckley
Smiths Sports (D. H. Smith & Son),
110 Castle Street.
Leicester
Apexcraft,
22 Churchgate.

LINCOLNSHIRE
Scunthorpe
Shermans Model Shop,
27 Dunstall Street.

LONDON
East London
A. C. E. Supplies,
8 Station Road, Manor Park, E.12.
Tel. 01-478 1225.
Auto-Models Ltd.,
70 Finsbury Pavement, E.C.2.
Tel. 01-606 5506.
Craftex Model Supplies,
283 High Road, Leytonstone, E.11.
Tel. 01-534 2159.
A. G. Hermite (E. S. Hermite),
633 Barking Road, E.13.
Tel. 01-472 2471.
Leisure Time,
4 Station Road, Chingford, E.4.
Tel. 01-529 1250.
J. E. Telford,
4 & 5 Golden Parade, Wood Street,
Walthamstow, E.17.
Tel. 01-520 2909.
H. J. Walker (Hackney) Ltd.,
193 Homerton High Street, E.9.
Tel. 01-985 1559.
E. Vaughan Ltd.,
341–345 Roman Road, E.3.
Tel. 01-980 3534.
Wilro Models Ltd.,
22 Clarence Road, E.5.
Tel. 01-985 7952.
Wools & Cards,
302a Romford Road,
Forest Gate, E.7. Tel. 01-534 1652.
North London
Beatties of London,
5 & 10 Broadway, Southgate, N.14.
Tel. 01-886 4258.
Garisan's,
89–91 Turnpike Lane, N.8.
Tel. 01-340 4347.
Michael's Models,
646–648 High Road,
North Finchley, N.12.
Tel. 01-445 6531.
Henry J. Nicholls & Son Ltd.,
308 Holloway Road, N.7.
Tel. 01-607 4272.
Tottenham Model Raceways Ltd.,
367–369 High Road, N.17.
Tel. 01-808 5668.
North West London
Aero Nautical Models,
39 Parkway, N.W.1. Tel. 01-485 1818.
H. A. Blunt & Sons Ltd.,
133 Broadway, Mill Hill, N.W.7.
Model Mart,
72 High Road, Willesden, N.W.10.
South East London
Eltham Models,
54 Wellhall Road,
Eltham, S.E.9.
Lewisham Model Centre,
45 Lee High Road, Lewisham, S.E.13.
Tel. Lee 2637.
Marriotts,
49–51 Upland Road,
East Dulwich, S.E.22.
Tel. 01-693 4063.
Marriotts,
15 Dartmouth Road,
Forest Hill, S.E.23. Tel. 01-699 1787.
Model Aircraft Supplies,
207 Camberwell Road, S.E.5.
Tel. 01-703 4562.
Model Box,
43a Burnt Ash Hill, S.E.12.
Tel. Kipling 7110.
Model Racing Car Centre,
390 Brockley Road, S.E.4.
Model Supplies,
328 Brockley Road, S.E.4.
Tel. 01-692 6292.
Norwood Junction Models,
3 Orton Buildings,
Portland Road, S.E.25.
Palace Model Shop,
13 Central Hill, S.E.19.
Tel. 01-670 3654.
Mr. M. Walker,
23 Camberwell Church Street, S.E.5.
Tel. 01-703 2242.
South West London
B.M.W. Models Ltd.,
329 Haydons Road, S.W.19.
Tel. 01-540 7333/4.
R. & J. Dines (Evrisport) Ltd.,
124 Upper Richmond Road,
Putney, S.W.15. Tel. 01-788 0202.
F. Jones & Son,
75 Lower Richmond Road,
Putney, S.W.15. Tel. Putney 1407.
Laffeatys,
332 Kings Road, S.W.3.
Model & Tool Supplies,
604 Kingston Road,
Raynes Park, S.W.20.
Tel. Liberty 3062.
D. H. Patrick,
107/111 Lillie Road, Fulham, S.W.6.
E. F. Russ,
101 Battersea Rise, S.W.11.
Tel. 01-228 6319.
Toyhouse,
351–353 Garrett Lane, S.W.18.
Tel. 01-874 2676.
West London
Beatties of London,
112 High Holborn
(opp. Holborn Tube Stn.), W.C.1.
Tel. 01-405 6285.
Hamley Bros. Ltd.,
Model Dept. 200–202 Regent Street,
W.1.
Hobby Supplies,
540 High Road, Chiswick, W.4.
G. W. Jones Bros.
56 Turnham Green Terrace, W.4.
Kenway Sports,
312 Uxbridge Road, Acton, W.3.
Motor Books & Accessories,
33 St. Martin's Court, W.C.2.

MIDDLESEX
Enfield Wash
Lewingtons Cycles Ltd.,
579–581 Hertford Road.
Tel. Howard 1016.
Harrow
Harrow Model Shop,
31 St. Anne's Road.
J. E. Seymour Model Toys Ltd.,
150 College Road.
Hayes
Mal Rees (Hobbies) Ltd.,
83 Coldharbour Lane.
Southall
Nordic Models,
26 High Street.
Teddington
Teddington Model Supplies Ltd.,
84–86 Broad Street. Tel. 01-977 4349.
Uxbridge
Percy's,
236 High Street. Tel. 33860.
Wembley Park
Wembley Model Shop,
12 The Broadway, Preston Road.
Whitton
Hodgsons Toys & Models Ltd.,
44 & 46 Hounslow Road.

NORFOLK
Fakenham
Universal Suppliers,
11 Bridge Street. Tel. 2044 & 2322.
Great Yarmouth
Hannant's,
17 Market Row. Tel. 4127.
Norwich
James Langley & Co. Ltd.,
20/21 Royal Arcade, Nor. 42E.
Tel. 21959.
Williment's Ltd.,
86 St. Benedicts, Nor. 24J.
Tel. 26525.
Thetford
R. & N. Moore,
41 Bury Road. Tel. 3608.

NORTHAMPTONSHIRE
Kettering
Berwick's Model Shop,
11a Newland Street.
Northampton
Super Model Aircraft Supplies,
230 Wellingborough Road.
A. Watts & Son Ltd.,
First Floor Model Department,
80 Abington Street.
Peterborough
Oliver Carley,
35 Broadway.

NORTHUMBERLAND
Newcastle-on-Tyne
Alfreds & Warner,
Blackett Street.
The Model Shop (Newcastle-on-Tyne)
Ltd., 18 Blenheim Street.

NOTTINGHAMSHIRE
Mansfield
Models & D.I.Y. Supplies,
(G. T. & A. Wood),
Stanhope Buildings, 12 Bridge Street.
Nottingham
Pearson Bros. (Mr. Ellis),
Long Row.

OXFORDSHIRE
Bicester
Trinder Bros.,
83–85 Sheep Street.
Henley-on-Thames
Brocks Cycles,
5 Friday Street. Tel. 5213.
Oxford
Howes Model Shop,
9–10 Broad Street.
Oxford Model Centre,
94 St. Clements.

SHROPSHIRE
Shrewsbury
Hobby Specialists of Shrewsbury,
27 Wyle Cop.

SCOTLAND
Aberdeen
Brian Sheriff,
63–65 John Street. Tel. 0224 24412.
Edinburgh
Homecrafts,
10 Gillespie Place, Edinburgh 10.
Tel. 031-229 7054.
Glasgow
Argyle Models,
247 Argyle Street, Glasgow, C.2.
Argyle Models,
Central Station Bridge,
Argyle Street, Glasgow, C.2.
Clyde Model Dockyard,
22–23 Argyll Arcade, Glasgow, C.2.
Tel. 041-221 4926.
J. Cook,
930 Springfield Road, Glasgow, E.1.
J. Cook,
433 Duke Street, Glasgow, E.1.
Tel. 041-554 6719.
J. Glassford,
89 Cambridge Street, Glasgow, C.3.
Tel. 041-332 3986.
Kilmarnock
The Radio Doctor,
94 Titchfield Street. Tel. 22941.

SOMERSET
Bath
The Bath Pram & Toy Shop,
22/23 Southgate Street.
The Modellers' Den (N. S. Keat),
2 Lower Borough Walls. Tel. 60115.
Wells
McPherson & Co.,
1 St. John Street.

STAFFORDSHIRE
Bilston
Cotterill,
10–12 High Street.
Lichfield
The Model Shop,
9–11 St. John's Street. Tel. 3307.
Newcastle-under-Lyme
Auto Kit (Newcastle),
20 Market Arcade.
Stafford
J. Bagnall Ltd.,
18 Salter Street.
Stoke-on-Trent
Brookfields (Toyland) Ltd.,
Model Dept., Trentham Road,
Longton.
Peppers Ltd.,
Model Shop, 63 Piccadilly, Hanley.
Walsall
Aero Models,
123 Wolverhampton Street.
S. H. Grainger & Co.
Caldmore Models,
108 Caldmore Road.
West Bromwich
Peter Ashley,
113 High Street.
Wolverhampton
James Beattie Ltd.,
Victoria Street.
Handicraft Centre,
491 Dudley Road.
Models & Hobbies,
3 Bell Street.

SUFFOLK
Bury St. Edmunds
C. F. Rogers,
77a–77b St. John's Street. Tel. 5308.
Felixstowe
Wakelins (Suffolk) Ltd.,
Suffolk House, Hamilton Road.
Tel. 4855.
Ipswich
Bowmans (East Anglian Supplies),
37–39a Upper Orwell Street.
Tel. 51195.
Everybody's Hobbies,
13 Nicholas Street. Tel. 53045.
Lowestoft
Hannant's (Toys and Models)
56 London Road North. Tel. 5688
Parrs,
252 London Road South. Tel. 5695
Mildenhall
E. Morley & Sons,
32–34 High Street.
Stowmarket
W. Simpson & Sons,
37–39 Bury Street. Tel. 2914.

SURREY
Chessington
Hook Cycles & General Supplies Ltd.,
19 Ace Parade, Hook.
Tel. Lower Hook 1979.
Coulsdon
Passmore Models,
92 Brighton Road. Tel 01-660 3206.
Croydon
Model Time,
6 St. George's Walk.
Priors Super Hobby Centre,
103/105 High Street.
Guildford
Pascalls Model Shop,
105 Woodbridge Road.
Tel. 0483 2274.
Kingston
Kingston Model Supplies,
18 High Street. Tel. 6745.
New Malden
G. T. Auto Shop,
76 Burlington Road.
Surbiton
Whitewoods,
103 Brighton Road. Tel. 01-399 8380.
Sutton
E. L. S. Models,
Eagle Star House, High Street.
Tel. 01-642 8291.
Wallington
Dees,
2 Greencourt Manor Road.
Tel. 01-647 7742.

SUSSEX
Brighton
The Lewes Road Model Shop,
187b Lewes Road. Tel. 61553.
John Taylor,
28 Preston Street.

LIST OF MAIN RIKO STOCKISTS

RIKO

Crowborough
Toyland
Queen's Road.
Eastbourne
Eastbourne Model Shop,
185b Langney Road. Tel. 26475.
Rye
C. A. Robins,
22/23 Landgate.
Worthing
Heene Models,
125 Rowlands Road.

ULSTER (Northern Ireland)
Bangor
J. McCullough,
19 Bridge Street, Co. Down.
Belfast
The Model Shop,
1–3 Upper Queen Street.

WARWICKSHIRE
Birmingham
M. Aldhous,
32 Church Road.
Ballard Bros.,
133 School Road,
Moseley, Birmingham 13.
Bobs Models,
520 Coventry Road, Birmingham 10.
Horntons,
15 Navigation Street, Birmingham 2.
King's Heath Models & Toys,
5 York Road, King's Heath,
Birmingham 14.
Model Mecca,
204 Whitton Road, Aston,
Birmingham 6.
The Powells Model Centre,
769 Alum Rock Road, Birmingham 8.
Rackhams Ltd.,
Corporation Street, Birmingham 2.
S. & M. Thorntons (Model Shop),
10 & 12 Albert Walk, Harborne,
Birmingham 17.
'Toyland',
Davies & Davies, 332 Marsh Lane,
Erdington, Birmingham 23.
Coventry
Experimental & Model Co.
62 Lower Ford Street.
Leamington Spa
Leamington Hobby Centre,
112 Regent Street.
Toy Town,
105 Regent Street.
Nuneaton
Rileys Sports Ltd.,
37 Queen's Road.
Sutton Coldfield
Gill & Son (Toys) Ltd.,
The Parade.

WESTMORLAND
Kendal
Keith O'Loughlin,
104 Stricklandgate. Tel. 3264.

WILTSHIRE
Salisbury
Joyland,
Blue Boar Row.
Salisbury Model Centre,
39 Fisherton Street. Tel. 4362.

WORCESTERSHIRE
Dudley
Ace Models,
20 Fountain Arcade.
Kidderminster
Model Mart,
3 Comberton Road.
Redditch
Fairest,
24 Alcester Street.
Stourport-on-Severn
M. A. Grinnall,
10 York Street.
Worcester
Worcester Model Shop,
52 Friar Street.

YORKSHIRE
Bradford
Carters,
15 Bridge Street, 3 Ivygate, Bradford 1.
Tel. 27454.
Cleckheaton
Beaumonts,
53 Northgate.
Halifax
Nichol & Brown,
24–26 Commercial Street. Tel. 53986.
Keighley
Willis Walker,
109 Cavendish Street. Tel. 2928.
Leeds
B. Cavill Cycle & Model Shop,
218 Armley Road, Leeds 12.
King Charles Sports Centre,
King Charles Street. Tel. 26611.
Middlesbrough
Romer Parrish,
133 Linthorpe Road.
Jack Trevor,
The Model Centre,
281 Linthorpe Road. Tel. 45368.
Ripon
J. Thompson & Son,
The Model Shop, 55 North Street.
Rotherham
L. R. Cooper (Rotherham) Ltd.,
6–10 Doncaster Gate. Tel. 79268.
Scarborough
The Model Shop (R. P. Jackson),
28 Bar Street.
Robinson's,
21–23–25 Northway. Tel. 63864.
Sheffield
Merrylands,
339 Ecclesall Road South, Sheffield 11.
Tel. 362146.
The Redgate Co. Ltd.,
12–24 Furnival Gate,
Sheffield, S.1. 3L.E.
Thorne (Nr. Doncaster)
Toyland No. 2 Shop,
Alexandra Street.
York
E. & P. Barker,
The Model Shop, 10 Minster Gate.
Tel. 27308.
E. Precious & Co. Ltd.,
87 Petergate.

MAIL ORDER SUPPLIERS

BEDFORDSHIRE
Luton
Aeromodels (Luton),
20 Gordon Street. Tel. 23182.

CHANNEL ISLES
Guernsey
The Model Shop,
1 Commercial Arcade.

CHESHIRE
Stockport
The Model Shop,
280 Wellington Road South.
Tel. 061-480 5478.

DEVON
Plymouth
'Modelcraft',
113 Mayflower Street.

ESSEX
Grays
Model Mecca,
79 High Street.
Tel. Grays Thurrock 76134.
Leigh-on-Sea
Moore Models,
1615 London Road.
Tel. Southend 76202.
Southend
Hobby Store Ltd.,
359 Chartwell Square,
Victoria Circus. Tel. 67545.
Westcliff-on-Sea
Essex Models & Hobbies,
620 London Road.
Tel. Southend 31595.

GLAMORGAN
Cardiff
The Model Shop
9 Mill Lane. Tel. 22247.

HAMPSHIRE
Aldershot
Concorde Models,
134 Victoria Road.

ISLE OF MAN
Douglas
Bunnies Model Shop,
25 Nelson Street. Tel. 4147.

KENT
Bexleyheath
E. & L. Woodruff,
245 Broadway. Tel. 01-303 1184.
Orpington
Orpington Model Centre,
49 High Street.
West Wickham
Hobbytime (Kent's Model Shop),
5 Ravenswood Crescent.

LANCASHIRE
Preston
Thomas Mears Ltd.,
14–15 Fishergate, Preston PR1 3NN.
Warrington
R. Ward, The Riko Corner,
64 Buttermarket Street. Tel. 34315.

LONDON
East London
Auto-Models Ltd.,
70 Finsbury Pavement, E.C.2.
Tel. 01-606 5506.
Craftex Model Supplies,
283 High Road, Leytonstone, E.11.
Tel. 01-534 2159.
A. G. Hermite (E. S. Hermite),
633 Barking Road, E.13.
Tel. 01-472 2471.
North London
Beatties of London,
5 & 10 Broadway, Southgate, N.14.
Tel. 01-886 4258.
Michael's Models,
646–648 High Road,
North Finchley, N.12.
Tel. 01-445 6531.
Henry J. Nicholls & Son Ltd.,
308 Holloway Road, N.7.
Tel. 01-607 4272.
Tottenham Model Raceways Ltd.,
367–369 High Road, Tottenham, N.17.
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H. A. Blunt & Sons Ltd.,
133 Broadway, Mill Hill, N.W.7.
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Eltham Models,
54 Wellhall Road, Eltham, S.E.9.
Lewisham Model Centre,
45 Lee High Road, Lewisham, S.E.13.
Tel. Lee 2637.
Model Racing Car Centre,
390 Brockley Road, S.E.4.
Norwood Junction Models,
3 Orton Buildings, Portland Road,
S.E.25.
South West London
B.M.W. Models Ltd.,
329 Haydons Road, S.W.19.
Tel. 01-540 7333/4.
West London
Hamley Bros. Ltd.,
Model Dept.,
200–202 Regent Street, W.1.
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540 High Road, Chiswick, W.4.
G. W. Jones Bros.,
56 Turnham Green Terrace, W.4.
Motor Books & Accessories,
33 St. Martin's Court, W.C.2.

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Harrow Model Shop,
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Southall
Nordic Models,
26 High Street.
Teddington
Teddington Model Supplies Ltd.,
84–86 Broad Street. Tel. 01-977 4349.

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Norwich
James Langley & Co. Ltd.,
20/21 Royal Arcade,
Norwich, Nor. 42E. Tel. 21959.

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Newcastle-upon-Tyne
The Model Shop
(Newcastle-upon-Tyne) Ltd.,
18 Blenheim Street.

NOTTINGHAMSHIRE
Nottingham
Pearson Bros.
Long Row.

OXFORDSHIRE
Oxford
Oxford Model Centre,
94 St. Clements.

SHROPSHIRE
Shrewsbury
Hobby Specialists of Shrewsbury,
27 Wyle Cop.

SCOTLAND
Glasgow
Argyle Models,
247 Argyle Street, Glasgow, C.2.
Argyle Models,
Central Station Bridge,
Argyle Street, Glasgow, C.2.

SOMERSET
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Dakii Constructions,
The Old Pottery,
Shave Lane, Horton.

STAFFORDSHIRE
Stafford
J. Bagnall Ltd.,
18 Salter Street.

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Addlestone
Addlestone Models Ltd.,
6/8 High Street.
Tel. Weybridge 45440.
Richmond
Richmond Model Shop,
6 Westminster House, Kew Road.
Tel. 01-940 7489.

WARWICKSHIRE
Birmingham
King's Heath Models & Toys,
5 York Road, King's Heath,
Birmingham 14.
Coventry
Experimental & Model Co.,
62 Lower Ford Street.

WORCESTERSHIRE
Kidderminster
Model Mart,
3 Comberton Road.

YORKSHIRE
Leeds
King Charles Sports Centre,
King Charles Street. Tel. 26611.
The Model Shop (Leeds) Ltd.,
Mail Order Dept.,
38 Merrion Street, Leeds 2.
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